

Bull. Natn. Sci. Mus., Tokyo, Ser. A, **18** (1), pp. 1–34, March 22, 1992

## Spionidae (Annelida, Polychaeta) from Japan VIII. The Genus *Scoelepis*

By

**Minoru IMAJIMA**

Department of Zoology, National Science Museum, Tokyo

**Abstract.** Ten species of the genus *Scoelepis* are described from Japanese waters. These ten include six new species, herein named *Scoelepis* (*Scoelepis*) *branchia*, *S. (S.) lingulata*, *S. (S.) sagittaria*, *S. (S.) variegata*, *S. (S.) planata* and *S. (Parascoelepis)* *geniculata*. *Scoelepis* (*Scoelepis*) *lefebvrei* GRAVIER, *S. (S.) kudenovi* HARTMANN-SCHRÖDER and *S. (Parascoelepis)* *texana* FOSTER are newly recorded from Japan. *Scoelepis* (*Scoelepis*) *branchia* appears to be transitional between the genera *Scoelepis* and *Dispio* in having accessory branchiae on notopodia. *Scoelepis* (*Scoelepis*) *planata* is characterized in having flattened occipital tentacle.

During the course of a study on Japanese spionids, ten species including six new species of the genus *Scoelepis* were recorded. Of these species, *Scoelepis* (*Parascoelepis*) *yamaguchii* (IMAJIMA, 1959) (as *Nerinides yamaguchii*) was previously reported from the intertidal zone of Hokkaido. *Scoelepis* (*Scoelepis*) *kudenovi* HARTMANN-SCHRÖDER, 1981, *S. (S.) lefebvrei* (GRAVIER, 1905) and *S. (Parascoelepis)* *texana* FOSTER, 1971 are newly reported from Japan. Six new species of *Scoelepis* are described.

The genus *Scoelepis* was reviewed by PETTIBONE (1963) and more recently by MACIOLEK (1987) who proposed two subgenera, *Scoelepis* and *Parascoelepis*, based on the structure of the hooded hooks.

The collection localities mentioned in the text are shown in Fig. 1. The bulk of the collection, including type specimens, is deposited in the National Science Museum, Tokyo.

The author wishes to thank Dr. Nancy J. MACIOLEK, Massachusetts, U. S. A. for reading the manuscript and providing many helpful suggestions.

### Genus *Scoelepis* BLAINVILLE, 1828

Prostomium pointed on anterior margin, extended posteriorly as narrow caruncle; caruncle attached or detached posteriorly. Occipital tentacle present or absent. Peristomium well developed, lateral wings present or absent. Branchiae present from setiger 2, continuing to near end of body, anterior branchiae completely fused to notopodial lamellae or distally free; accessory branchiae present or absent. Anterior setae limbate, sometimes reticulated capillaries; neuropodial hooded hooks

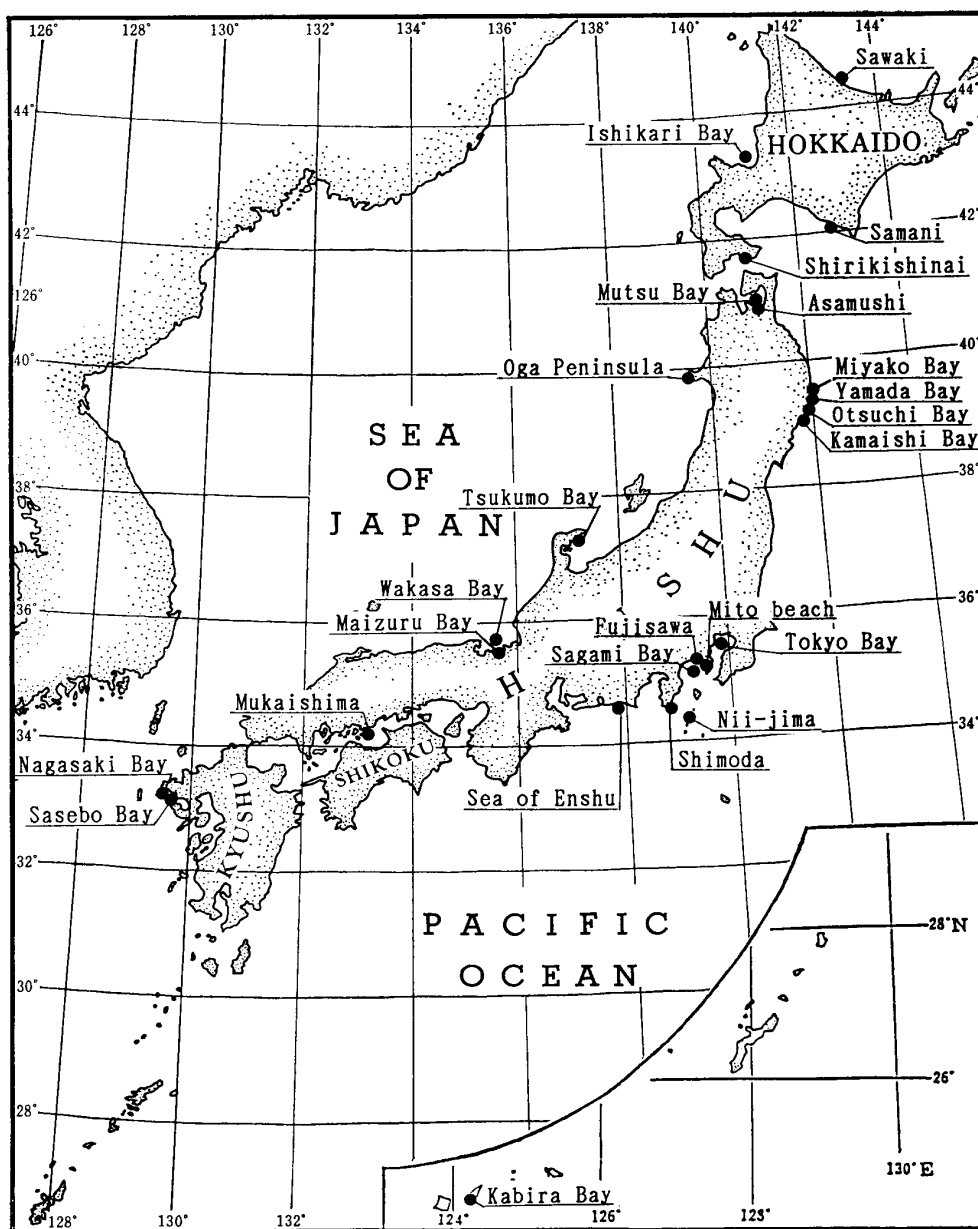


Fig. 1. Map of Japan, showing localities mentioned in the text.

present; notopodial hooks present or absent. Hooks either falcate with 0–2 small apical teeth and straight shaft (subgenus *Scolecopsis*); or multidentate with large main fang, several apical teeth and curved shaft (subgenus *Parascolecopsis*). Pygidium with oval disc or multilobed (quoted from MACIOLEK, 1987: 17).

#### Key to Japanese Species of *Scolecopsis*

1. Hooks falcate with 0–2 small apical teeth, with straight shaft.....

- .....(Subgenus *Scolelepis*) 2
- 1'. Hooks multidentate with large main fang and several apical teeth, with curved shaft ..... (Subgenus *Parascolelepis*) 8
2. Notopodial setae absent on setiger 1; branchiae completely fused with notopodial lamellae anteriorly, becoming free; hooded hooks bidentate; with pigmented pattern on prostomium ..... *Scolelepis (Scolelepis) variegata* sp. nov.
- 2'. Notopodial setae present on setiger 1; branchiae partially fused with notopodial lamellae, tips free; hooded hooks unidentate or bidentate ..... 3
3. Occipital tentacle present ..... 4
- 3'. Occipital tentacle absent, but caruncle present ..... 6
4. With short digitate occipital tentacle ..... 5
- 4'. With flattened occipital tentacle ..... *S. (S.) planata* sp. nov.
5. Prostomium sagittate; hooded hooks bidentate; with notopodial hooks on posterior setigers ..... *S. (S.) sagittaria* sp. nov.
- 5'. Prostomium conical; hooded hooks unidentate; without notopodial hooks on posterior setigers ..... *S. (S.) lingulata* sp. nov.
6. With accessory branchiae on notopodia and broad reticulated setae ..... *S. (S.) branchia* sp. nov.
- 6'. Without accessory branchiae and reticulated setae ..... 7
7. Hooded hooks bidentate; with notopodial hooks on posterior setigers; pygidium with smooth oval ventral cushion ..... *S. (S.) kudenovi* HARTMANN-SCHRÖDER
- 7'. Hooded hooks unidentate; without notopodial hooks on posterior setigers; pygidium with incised ventral cushion ..... *S. (S.) lefebvrei* (GRAVIER)
8. Branchiae completely fused with notopodial lamellae throughout posterior setigers; with 2 pairs apical teeth ..... *S. (Parascolelepis) yamaguchii* (IMAJIMA)
- 8'. Branchiae completely fused with notopodial lamellae anteriorly, becoming free posteriorly; with 3 pairs apical teeth ..... 9
9. Setiger 1 with notopodial setae and small neuropodial lamellae; pygidium with 2 ventral lobes ..... *S. (P.) geniculata* sp. nov.
- 9'. Setiger 1 without notopodial setae and with large, rounded neuropodial lamellae; pygidium with small ventral papillated lobe ..... *S. (P.) texana* FOSTER

#### Subgenus *Scolelepis* Blainville

#### *Scolelepis (Scolelepis) branchia* sp. nov.

(Figs. 2a–i, 3a–k)

*Material examined.* Tokyo Bay, 35°32.0'N, 139°54.0'E, in 19 m (holotype), VIII–1981. Off Yura River, Wakasa Bay, in 5 m (1 specimen), V–1976, coll. I. HAYASHI.

*Description.* All specimens missing posterior end; holotype with 110 setigers, measuring 53 mm in length and 2.5 mm in width including parapodia. Body subequal in width through to about setiger 50, then gradually tapering posteriorly; generally

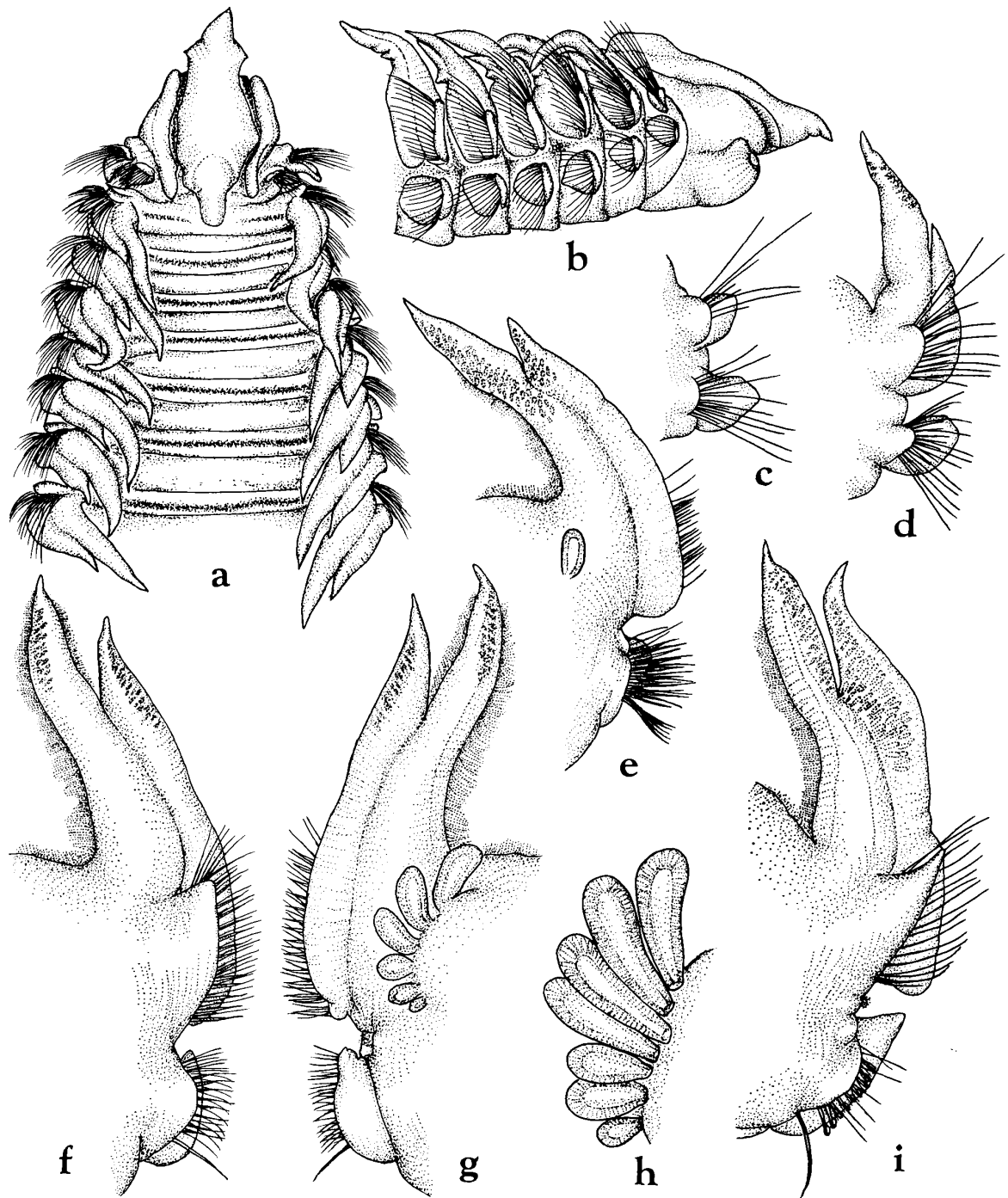


Fig. 2. *Scolelepis (Scolelepis) branchia* sp. nov. — a, Anterior end, dorsal view,  $\times 22$ ; b, same, lateral view,  $\times 22$ ; c, setiger 1, anterior view,  $\times 40$ ; d, setiger 2, anterior view,  $\times 40$ ; e, setiger 6, posterior view,  $\times 40$ ; f, setiger 20, anterior view,  $\times 40$ ; g, same, posterior view,  $\times 40$ ; h, accessory branchiae on setiger 30,  $\times 58$ ; i, setiger 40, anterior view,  $\times 40$ .

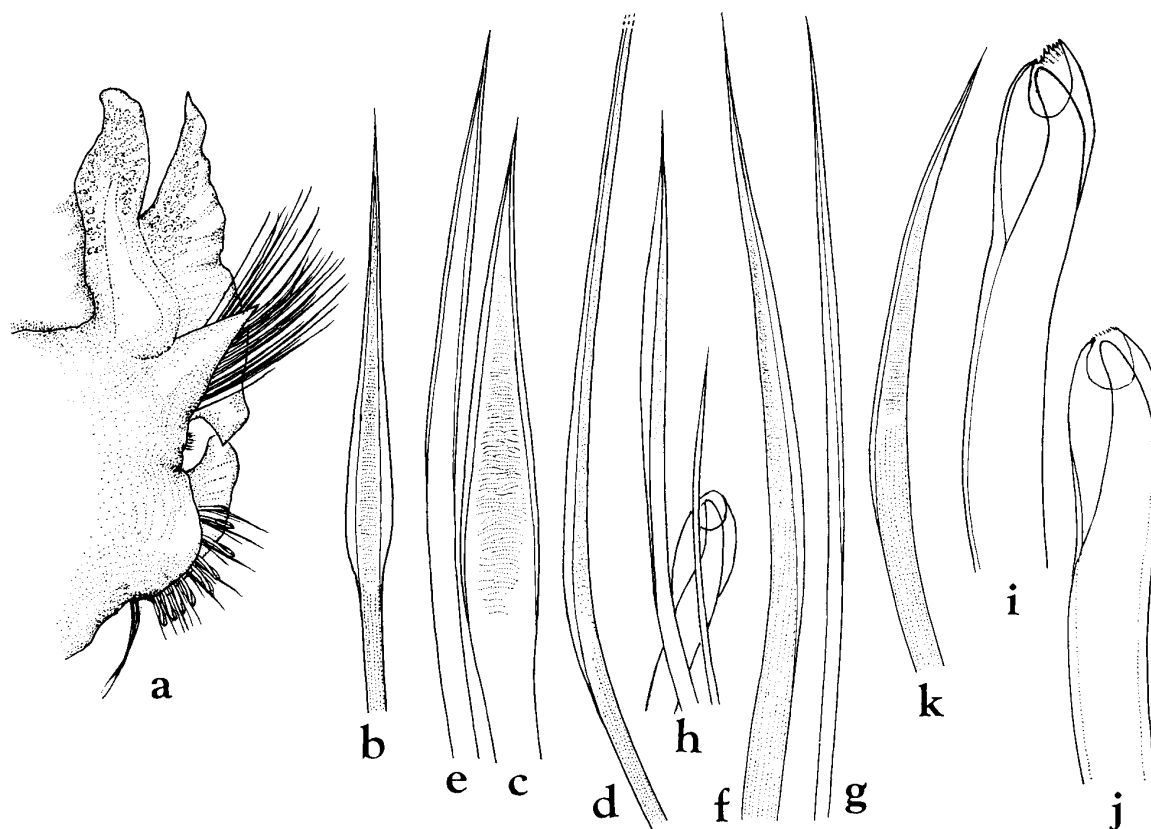


Fig. 3. *Scolelepis (Scolelepis) branchia* sp. nov. — a, Setiger 110, anterior view,  $\times 40$ ; b, notopodial seta in anterior row from setiger 1,  $\times 350$ ; c, reticulated seta in anterior row from setiger 20,  $\times 350$ ; d, notopodial seta in posterior row from setiger 1, distal part of seta omitted,  $\times 350$ ; e, notopodial seta in posterior row from setiger 20,  $\times 350$ ; f, g, notopodial setae from setiger 110,  $\times 240$ ; h, hooded hook and companion setae from setiger 110,  $\times 350$ ; i, hooded hook from setiger 30,  $\times 580$ ; j, hooded hook from setiger 110,  $\times 580$ ; k, ventral sabre seta from setiger 20,  $\times 240$ .

rectangular in cross section; intersegmental boundaries with distinct annulations (Fig. 2a). Palps missing from holotype.

Prostomium fusiform, acutely pointed, tapered anteriorly, with posterior raised caruncle extending to setiger 2; eyes not visible; occipital tentacle absent (Fig. 2a, b). Peristomium separate from setiger 1, forming small lateral wings (Fig. 2a).

Setiger 1 with small, subtriangular notopodial lamellae and oval neuropodial lamellae; capillary setae present in both rami (Fig. 2c). Branchiae present from setiger 2, with ruffled, amber pigmented glandular margins (Figs. 2d–g, i, 3a); all branchiae fused basally to notopodial postsetal lamellae, with free, distally pointed tips (Figs. 2d–g, i, 3a). Accessory digitiform branchiae present at posterior bases of notopodia starting on setiger 7 as a single small lobe, thereafter increasing in number up to 7 lobes in setiger 30 (Fig. 2h), then gradually decreasing to 1 lobe through

setiger 84.

Notopodial postsetal lamellae of setiger 2 and succeeding setigers entire, fused with branchiae, lamellae distally free with pointed tips (Figs. 2d–g, i, 3a); lower corners of lamellae in posterior setigers ventrally pointed (Fig. 3a). Notopodial presetal lamellae low, rounded anteriorly (Fig. 2d); thereafter, lamellae becoming more conspicuous, triangular with acute tips (Figs. 2i, 3a). Neuropodial postsetal lamellae lower, rounded in anterior setigers (Fig. 2d, e); thereafter, slightly elongated dorsally (Fig. 2f, g); dorsal portion becoming dorsally elongated in posterior setigers, directed dorsally towards ventral portion of notopodial postsetal lamellae (Fig. 3a); presetal lamellae low, rounded throughout.

Notopodial setae arranged in 2 rows throughout; setae of anterior row in anterior notopodia very broad, striated, with wide sheaths and reticulation across width (Fig. 3b, c); setae of posterior row longer and narrower, with narrow sheaths and light granulations (Fig. 3d, e); separate group of long, narrowly sheathed capillaries present dorsal to anterior row (Fig. 2f). Posterior notopodial setae sheathed capillaries with granulations (Fig. 3f) and thin, sheathed capillaries lacking granulations (Fig. 3g). Anterior neuropodial setae similar to notopodial setae, with broad, reticulated setae in anterior row and thin capillaries in posterior row. Neuropodial hooded hooks present from setiger 22, numbering up to 9 per fascicle, accompanied throughout by broad limbate setae and thin alimbate capillaries (Fig. 3h); hooks stout, unidentate (Fig. 3i, j). Ventral sabre setae present from setiger 19, numbering 1 or 2 per fascicle; each with sheath, heavily granulated (Fig. 3k).

Pygidium unknown.

*Remarks.* *Scoelepis branchia* has affinities to some species of *Dispio* in having an anteriorly pointed prostomium, accessory branchiae at the posterior bases of the notopodia and broad, reticulated capillaries. However, *S. branchia* can be distinguished from *Dispio* in having branchiae present from setiger 2 rather than setiger 1.

*Scoelepis branchia* is very closely related to *S. pettiboneae* MACIOLEK, 1987, described from deep water off Georgia of the east coast of North America. The two species are similar in having the accessory branchiae at the posterior bases of the notopodia and the broad, reticulated capillaries on the anterior noto- and neuropodia. *Scoelepis branchia* differs from *S. pettiboneae* in having unidentate hooded hooks, rather than bidentate hooded hooks and the notopodial postsetal lamellae fused with the dorsal lamellae through posterior setigers (at least to the 110th setiger), rather than separated from the dorsal lamellae, with pointed upper and lower corners in the 42nd setiger.

*Type.* Holotype, NSMT-Pol. H 337.

*Distribution.* Japan; 5–19 m,

*Scolelepis (Scolelepis) lingulata* sp. nov.

(Figs. 4a–g, 5a–n)

*Material examined.* Off Mito-beach, Sagami Bay, 35°10.3'N, 139°36.6'E, in 20 m (1), VII–1967. Off Fujisawa, Sagami Bay, 35°17.4'N, 139°27.0'E, in 20 m (1), VII–1979. Off Nii-jima, 34°24.0'N, 139°19.2'E–34°23.8'N, 139°19.1'E, in 75 m (1), VII–1977. Off Yura River, Wakasa Bay, in 5 m (holotype and 2 paratypes), V–1976, coll. I. HAYASHI.

*Description.* Holotype complete individual with 46 setigers, measuring 20 mm in length and 1.8 mm in width at anterior region including parapodia. Body wide anteriorly, tapering posteriorly. Color in alcohol pale yellow. Palps missing from holotype, but one paratype with slender palps lacking palpal sheath.

Prostomium anteriorly pointed, with subterminal protuberanus, posteriorly ending bluntly on setiger 1; occipital tentacle present; 4 eyes arranged in transverse row (Fig. 4a). Peristomium completely separated from setiger 1, forming well-developed lateral wings (Fig. 4a, b).

Setiger 1 with small, conical notopodial lamellae and large, subtriangular lamellae; sheathed capillary setae present in both rami (Fig. 4c). Branchiae present from setiger 2, fused to notopodial postsetal lamellae but distally free (Fig. 4d); lamellae oval with elongated pointed tip, branchiae elongated, tapered, with yellow pigment distally; branchiae in median setigers slender and more elongated (Fig. 4f, g), overlapping ones in mid-dorsal region; those becoming smaller again in posterior setigers (Fig. 5a). Neuropodial postsetal lamellae small and rounded anteriorly (Fig. 4d), then becoming flattened and elongated in subsequent anterior segments (Fig. 4e); slight notch developed by setiger 17 (Fig. 4f); thereafter lamellae divided into low, rounded interrampal lobe and small triangular ventral lobe (Fig. 4g); neuropodial interrampal lobe becoming conspicuous, lingulate, protruding obliquely in posterior setigers (Fig. 5a).

Anterior noto- and neuropodial setae all capillaries, arranged in 2 rows (Fig. 5b, c); setae of anterior row shorter than those of posterior row; anterior notopodial setae thickened, broadly limbate, setae of anterior row heavily granulated, setae of posterior row lightly granulated (Fig. 5d, e), those setae becoming gradually slender (Fig. 5f) and longer (Fig. 5g). Neuropodial setae on setiger 1 similar in structure to notosetae, setae in anterior row short and granulated (Fig. 5b, h), those setae gradually thickening over successive setigers (Fig. 5c). Neuropodial hooded hooks present from setiger 21, numbering up to 9 per fascicle, accompanied throughout by about 10 limbate and slightly granulated capillaries (Fig. 5i); hooks stout and unidentate (Fig. 5j, k); notopodial hooded hooks lacking.

Pygidium with ventral, entire cushion; anus opening dorsally (Fig. 5l–n).

*Remarks.* *Scolelepis lingulata* is very closely related to *S. knight-jonesi* (DE SILVA, 1961) from Sri Lanka in that an occipital tentacle is present on the prostomium, the notopodia on setiger 1 have capillary setae, the neuropodial hooded hooks are

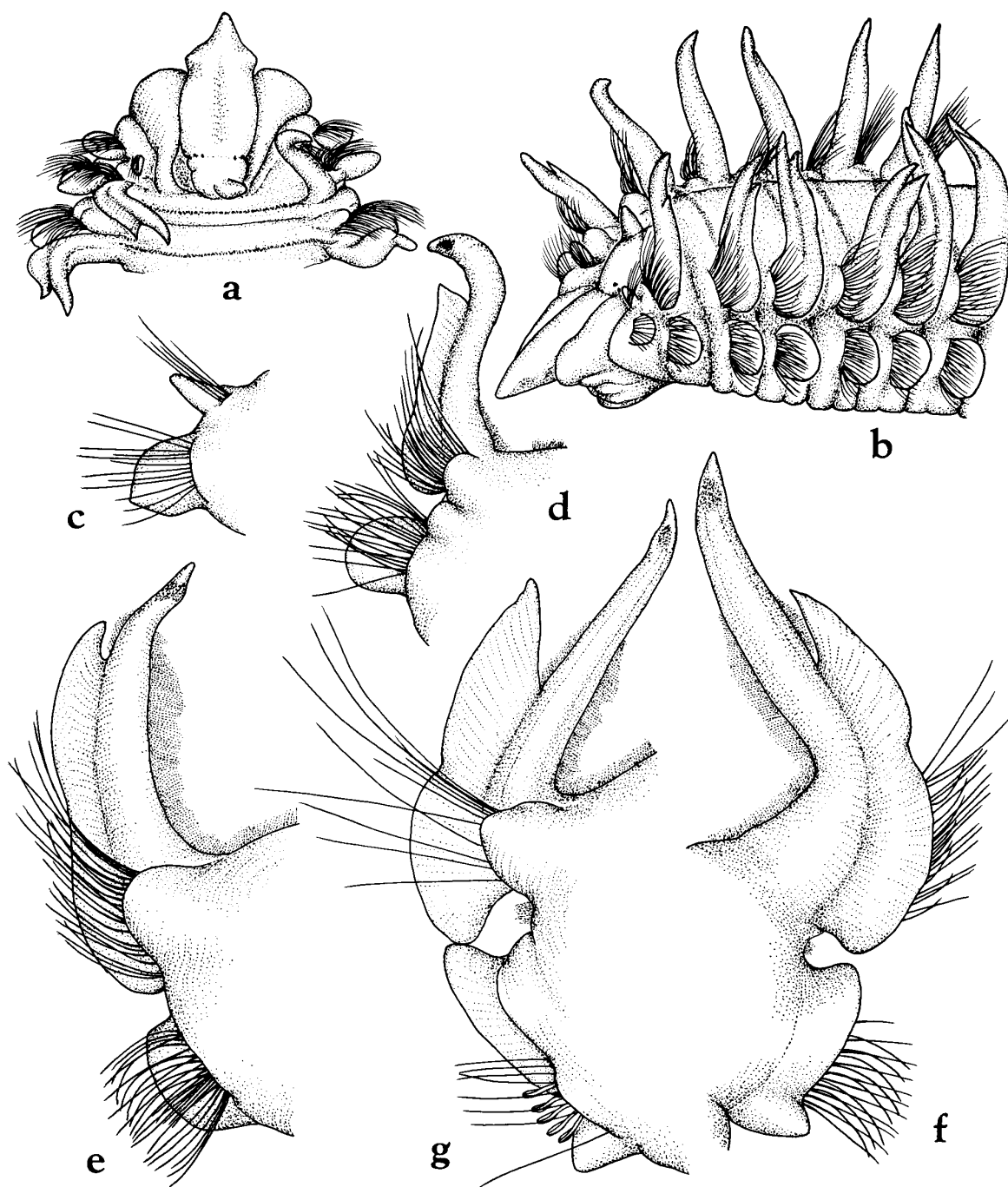


Fig. 4. *Scolelepis (Scolelepis) lingulata* sp. nov. — a, Anterior end, dorsal view,  $\times 32$ ; b, same, lateral view,  $\times 32$ ; c, setiger 1, anterior view,  $\times 58$ ; d, setiger 2, anterior view,  $\times 58$ ; e, setiger 10, anterior view,  $\times 58$ ; f, setiger 17, posterior view,  $\times 58$ ; g, setiger 21, anterior view,  $\times 58$ .



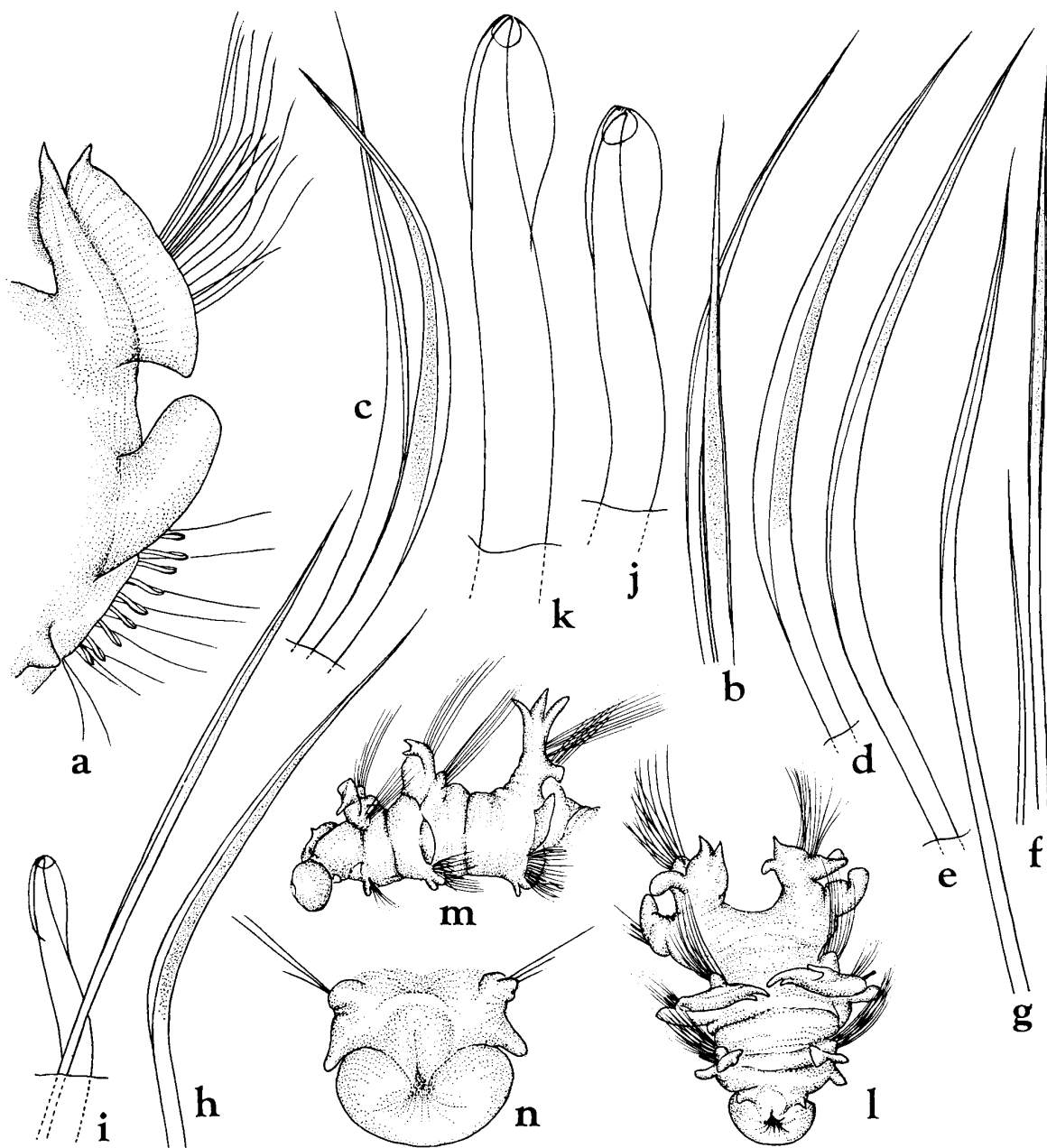


Fig. 5. *Scolelepis (Scolelepis) lingulata* sp. nov. — a, Setiger 39, posterior view,  $\times 47$ ; b, neuropodial setae from setiger 1,  $\times 350$ ; c, neuropodial setae from setiger 10,  $\times 350$ ; d, notopodial seta in anterior row from setiger 10,  $\times 350$ ; e, notopodial seta in posterior row from same setiger,  $\times 350$ ; f, notopodial setae from setiger 21,  $\times 180$ ; g, notopodial seta from posterior setiger,  $\times 180$ ; h, neuropodial seta in anterior row from setiger 1,  $\times 350$ ; i, hooded hook and companion seta from setiger 21,  $\times 350$ ; j, hooded hook from setiger 21,  $\times 637$ ; k, hooded hook from setiger 39,  $\times 637$ ; l, posterior end, dorsal view,  $\times 22$ ; m, same, lateral view,  $\times 22$ ; n, pygidium and 1 posterior setiger, dorsal view,  $\times 44$ .

unidentate and the branchiae are partially fused with dorsal lamellae throughout. However, *S. lingulata* can be distinguished from *S. knight-jonesi* in that (1) the neuropodial interrampal lamellae on the posterior setigers are conspicuously lingulate and obliquely protruded, rather than being low and elongate and (2) neuropodial hooded hooks are present from setiger 21, rather than from setiger 31–43.

*Type-series.* Holotype, NSMT-Pol. H 338; 2 paratypes, NSMT-Pol. P 339.

*Distribution.* Japan; 5–75 m.

***Scoelepis (Scoelepis) lefebvrei* (GRAVIER, 1905)**

(Figs. 6a–i, 7a–o)

*Nerine Lefebvrei* GRAVIER, 1905, pp. 43–44.

*Scoelepis (Scoelepis) lefebvrei*: PETTIBONE, 1963, pp. 92–93; FOSTER, 1971, p. 65; MACIOLEK, 1987, p. 18.

*Material examined.* Off Shimoda, in 45 m (1), III–1977.

*Description.* A large species, measuring 80 mm in length and 2 mm in width for 150 setigers (fide GRAVIER, 1905: 44); present complete material measures 113 mm in length and 3.3 mm in width at anterior region including parapodia for 201 setigers. Color in alcohol: body yellowish white, but pygidium brownish.

Prostomium sharply pointed anteriorly, protuberating subterminally, with caruncle pointed posteriorly, extending to posterior margin of setiger 1; 4 small black eyes present in transverse row; occipital tentacle absent (Fig. 6a, b). Peristomium distinct from setiger 1, forming well-developed lateral wings (Fig. 6b).

Setiger 1 well developed, with large, subtriangular notopodial lamellae and small neuropodial lamellae; both rami with capillary setae (Fig. 6c). Branchiae present from setiger 2, with thick, glandular, subtriangular tips (Fig. 6e–h). Notopodial lamellae distally free from branchiae both branchiae and notopodial lamellae nearly equal in length through posterior setigers (Fig. 6e–g, i); notopodial presetal lamellae rounded. Neuropodial lamellae rounded anteriorly (Fig. 6e), slight notch developing around setiger 26–30 (Fig. 7a–c), lamellae becoming distinctly bilobed into small ventral lamellae and larger flattened interrampal lamellae in middle setigers (Fig. 6g); interrampal lamellae in posterior setigers divided into 3–4 lobes (Fig. 6i).

Anterior noto- and neuropodial setae all sheathed capillaries, arranged in 2 rows, setae of anterior row shorter, more granulated than those of posterior row (Fig. 6m, n); setal fascicle of notopodia with 5–6 long capillaries in superior position near anterior row (Figs. 6e, 7f); last 3 notopodia near end of body lacking setal fascicles (Fig. 7o). Neuropodial setae on setiger 1 similar in structure to notosetae; neurosetae in anterior row short and granulated (Fig. 7g, h), those of subsequent setigers curved and thickened (Fig. 7i). Neuropodial hooded hooks present from setiger 38, up to 5 per fascicle, accompanied throughout by sheathed capillaries (Fig. 7j); hooks stout, unidentate (Fig. 7k, l), hooks in posterior setigers with reduced hoods (Fig. 7l); notopodial hooks lacking.

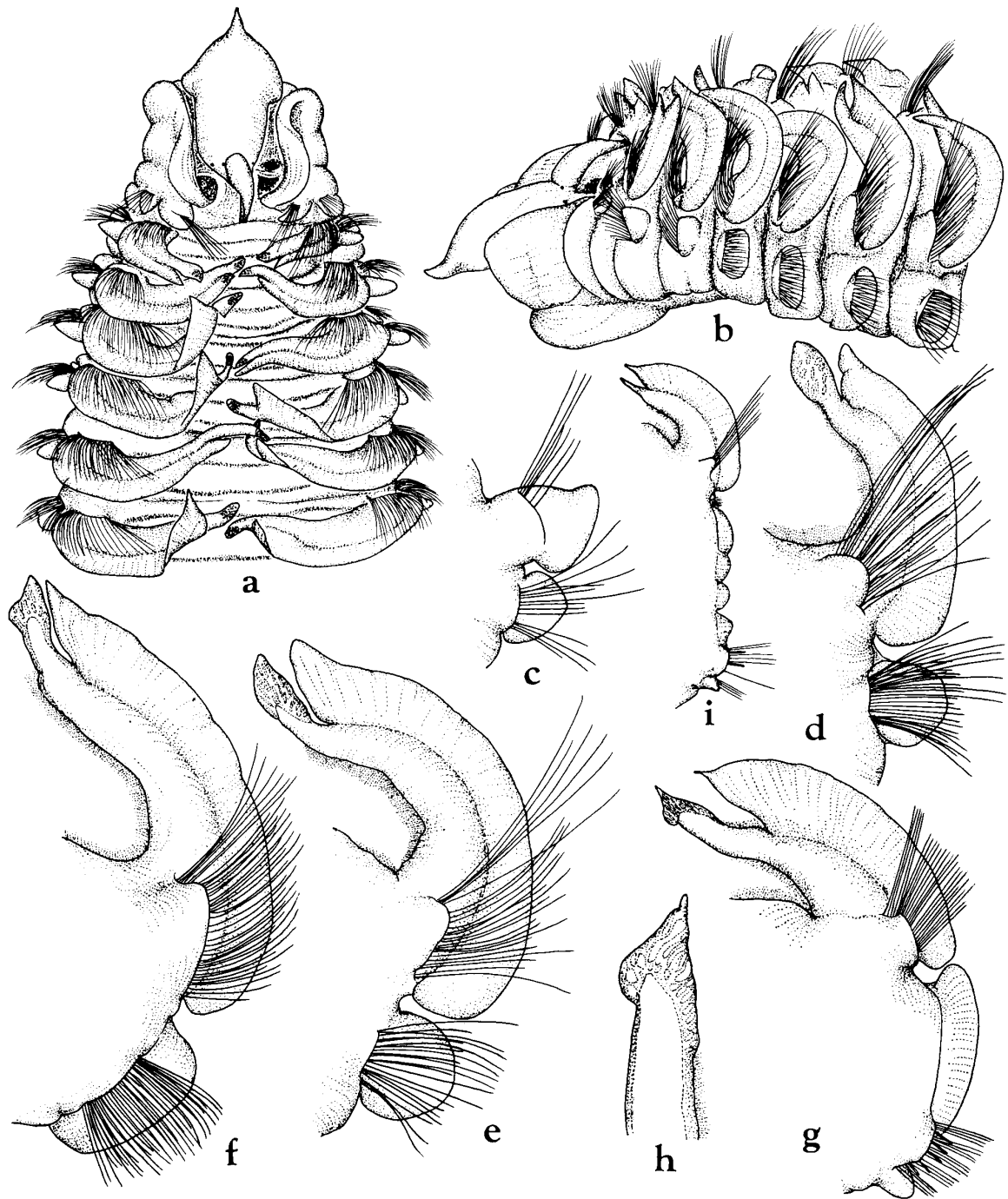


Fig. 6. *Scolelepis (Scolelepis) lefebvrei* (GRAVIER). — a, Anterior end, dorsal view,  $\times 20$ ; b, same, lateral view,  $\times 20$ ; c, setiger 1, anterior view,  $\times 52$ ; d, setiger 2, anterior view,  $\times 52$ ; e, setiger 3, anterior view,  $\times 52$ ; f, setiger 12, anterior view,  $\times 42$ ; g, setiger 40, anterior view,  $\times 30$ ; h, tip of branchia from setiger 40,  $\times 77$ ; i, posterior setiger, anterior view,  $\times 30$ .

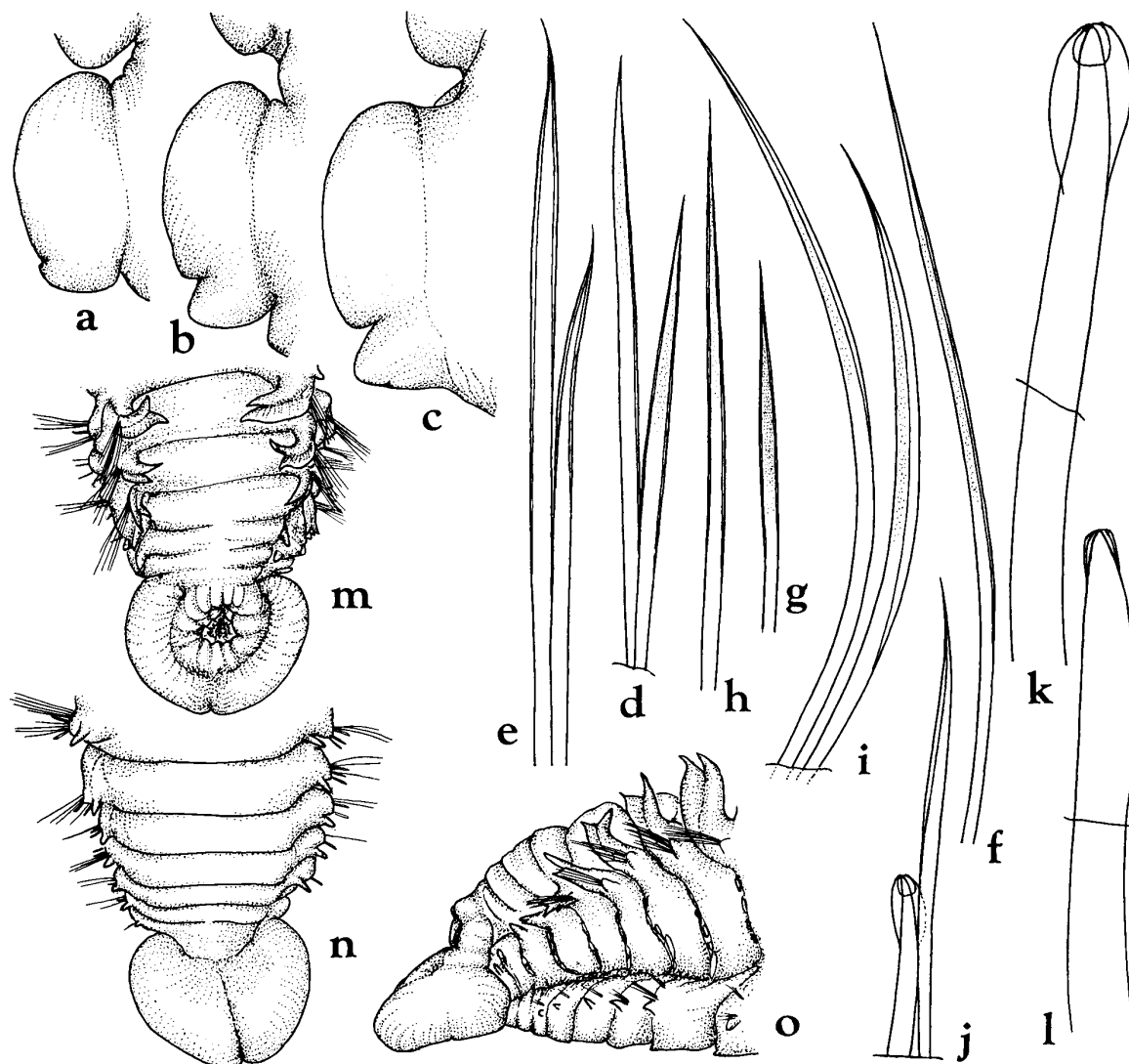


Fig. 7. *Scolelepis (Scolelepis) lefebvrei* (GRAVIER). — a–c, Neuropodia from setiger 26 (a), from setiger 28 (b) and from setiger 30 (c), posterior view, neuropodial setae omitted,  $\times 52$ ; d, notopodial setae in anterior and posterior rows from setiger 12,  $\times 163$ ; e, notopodial setae in anterior and posterior rows from setiger 40,  $\times 240$ ; f, notopodial seta in superior position from setiger 12,  $\times 163$ ; g, neuropodial seta in anterior row from setiger 1,  $\times 240$ ; h, neuropodial seta in posterior row from same setiger,  $\times 240$ ; i, neuropodial setae from setiger 12,  $\times 240$ ; j, hooded hook and companion seta from setiger 40,  $\times 240$ ; k, hooded hook from setiger 40,  $\times 470$ ; l, hooded hook from posterior setiger,  $\times 470$ ; m–o, pygidium and some setigers, dorsal (m), ventral (n) and lateral (o) views,  $\times 26$ .

Pygidium with brownish, incised ventral cushion; anus opening dorsally (Fig. 7m–o).

*Remarks.* The present material corresponds well with GRAVIER's (1905) original description of this species from the Red Sea.

The species is new to the Japanese fauna.

*Distribution.* Red Sea; Japan; 45 m.

***Scolelepis (Scolelepis) sagittaria* sp. nov.**

(Figs. 8a–h, 9a–h, 10a–k)

*Material examined.* Off Shimoda, in 50 m (holotype and 5 paratypes), III–1977.

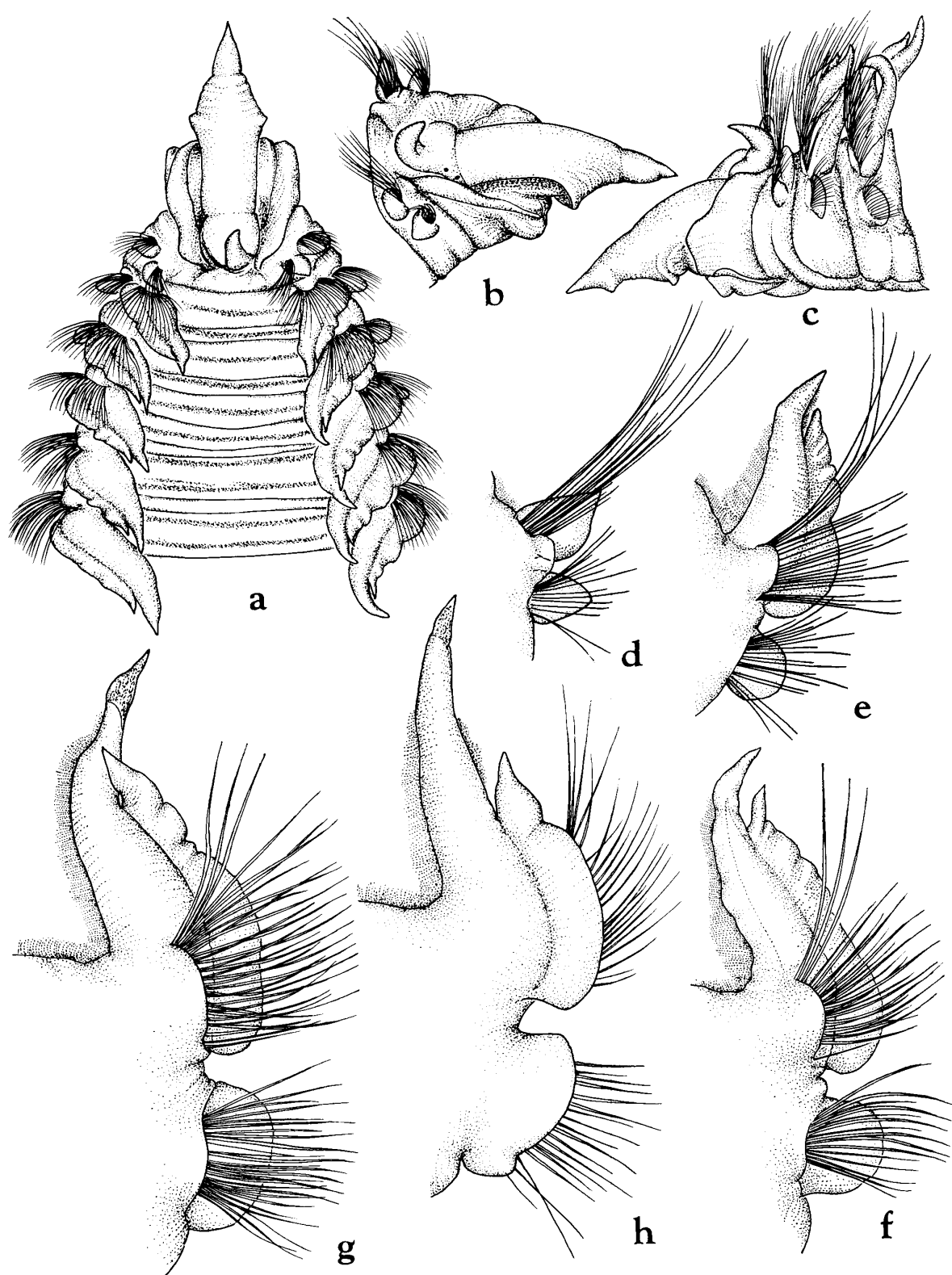
*Description.* Holotype largest complete individual with 75 setigers, measuring 21 mm in length and 1.5 mm in width at anterior region including parapodia. Body rectangular in cross section.

Prostomium sagittate, extended anteriorly to long, tapering point, posteriorly ending on setiger 1 with terminal portion raised into occipital tentacle; 4 eyes present at sides of prostomium (Fig. 8a, b). Peristomium completely separated from setiger 1, forming well-developed lateral wings (Fig. 8c).

Setiger 1 well developed, with subtriangular noto- and neuropodial lamellae, notopodial lamellae larger than neuropodial lamellae; capillary setae present in both rami (Fig. 8d). Notopodial lamellae almost completely fused to branchiae in anterior setigers (Fig. 8e–h); free tips of branchiae tapered, elongate with pigmented glands (Fig. 8g, h); notopodial lamellae becoming gradually smaller (Fig. 9a) and almost free in posterior setigers (Fig. 9b). Notopodial presetal lobes low and rounded. Neuropodial postsetal lamellae rounded anteriorly (Fig. 8e–g), with slight notch developing from setiger 29 (from setigers 19–25 in paratypes) (Fig. 8h), lamellae divided into interramal lamellae and ventral lamellae (Fig. 9a, b); posterior notopodial lamellae elongated ventrally, interramal lamellae low, rounded, with elongated upper tip (Fig. 9b).

Anterior setae all sheathed capillaries; notopodial setae separated into superior and inferior fascicles (Figs. 8f, g, 9a, b); setae of superior fascicle numbering 3–5, longer with slender sheaths, non-granulated; capillaries of inferior fascicle arranged in 2 rows, setae of anterior row short, broadly limbate and heavily granulated (Fig. 9c, d), setae of posterior row long, lightly granulated (Fig. 9e, f), those setae conspicuous in about setigers 10–30; setae in posterior setigers narrower, narrowly sheathed, non-granulated (Fig. 9g, h). Neuropodial setae similar in arrangement and structure to notopodial setae (Fig. 10a–c), setae of anterior row broadly limbate and heavily granulated (Fig. 10d). Neuropodial hooded hooks present from setiger 32 (from setiger 31–33 in paratypes), numbering up to 10 per fascicle, accompanied by slender capillaries with clear sheaths (Fig. 10e); a single superior hook tridentate, with 2 small apical teeth arranged in parallel, surmounting large falcate spine (Fig. 10f), remaining hooks all bidentate (Fig. 10g–i), primary hood long, clear; notopodial hooded hooks present from setiger 52 (from setiger 52–58 in paratypes), numbering 4 per fascicle, all hooks tridentate with 2 small apical teeth (Fig. 10j), bidentate in lateral view.

Pygidium forming entire ventral cushion, anus dorsal, surrounded by crenulate



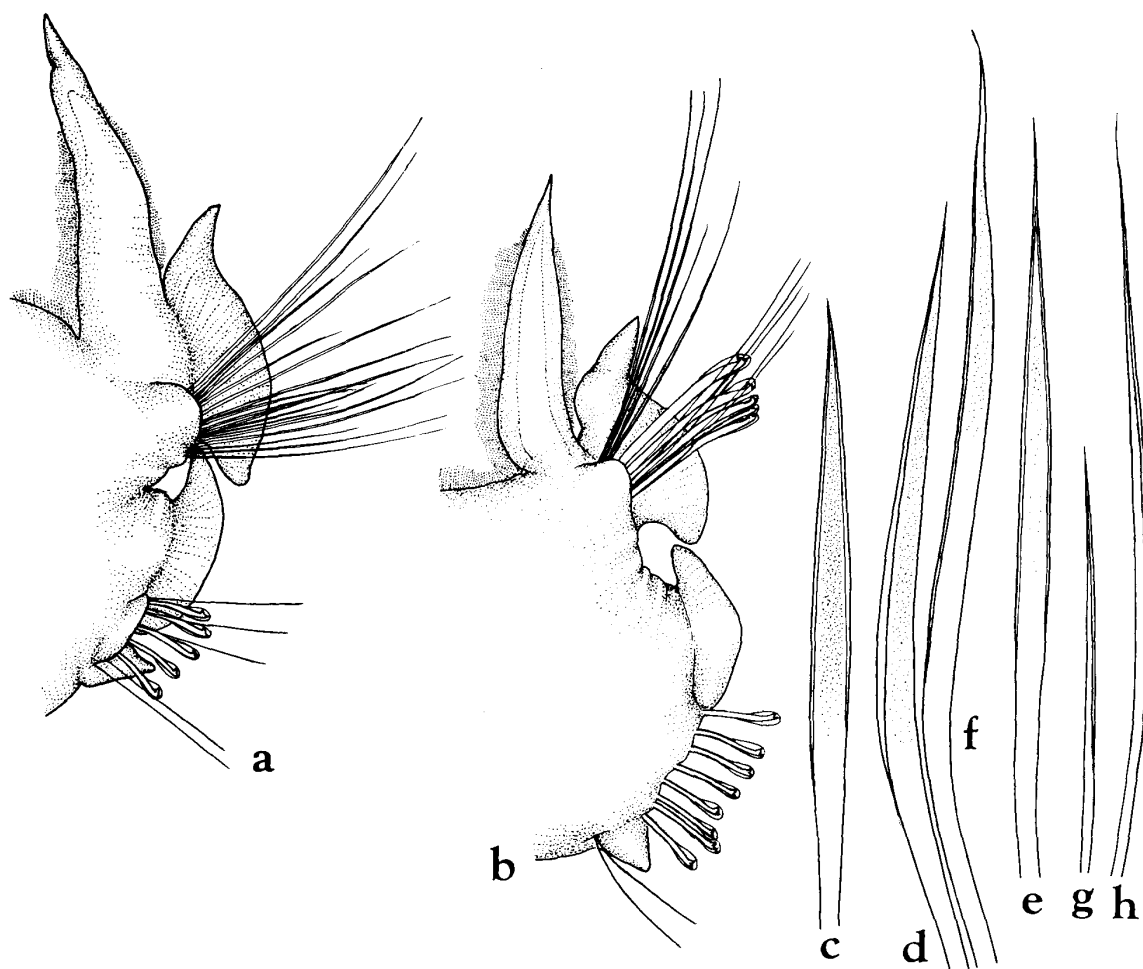


Fig. 9. *Scolelepis (Scolelepis) sagittaria* sp. nov. — a, Setiger 40, anterior view,  $\times 80$ ; b, posterior setiger, anterior view,  $\times 80$ ; c, notopodial seta in anterior row from setiger 4,  $\times 353$ ; d, notopodial seta in anterior row from setiger 14,  $\times 353$ ; e, notopodial seta in posterior row from setiger 4,  $\times 353$ ; f, notopodial seta in posterior row from setiger 14,  $\times 353$ ; g, notopodial seta in anterior row from setiger 40,  $\times 240$ ; h, notopodial seta in posterior row from setiger 40,  $\times 240$ .

margin (Fig. 10k).

**Remarks.** *Scolelepis sagittaria* is closely related to *S. balihaiensis* HARTMANN-SCHRÖDER, 1979 from the west coast of Australia. The two species are similar in the shape and development of the notopodial lamellae and branchiae, which are almost completely fused in the anterior setigers and almost free from each other in the posterior setigers. The two species are also similar in the structure of the notopodial

Fig. 8. *Scolelepis (Scolelepis) sagittaria* sp. nov. — a, Anterior end, dorsal view,  $\times 40$ ; b, same, dorso-lateral view,  $\times 44$ ; c, same, lateral view,  $\times 40$ ; d, setiger 1, anterior view,  $\times 80$ ; e, setiger 2, anterior view,  $\times 80$ ; f, setiger 4, anterior view,  $\times 80$ ; g, setiger 14, anterior view,  $\times 80$ ; h, setiger 29, posterior view,  $\times 80$ .

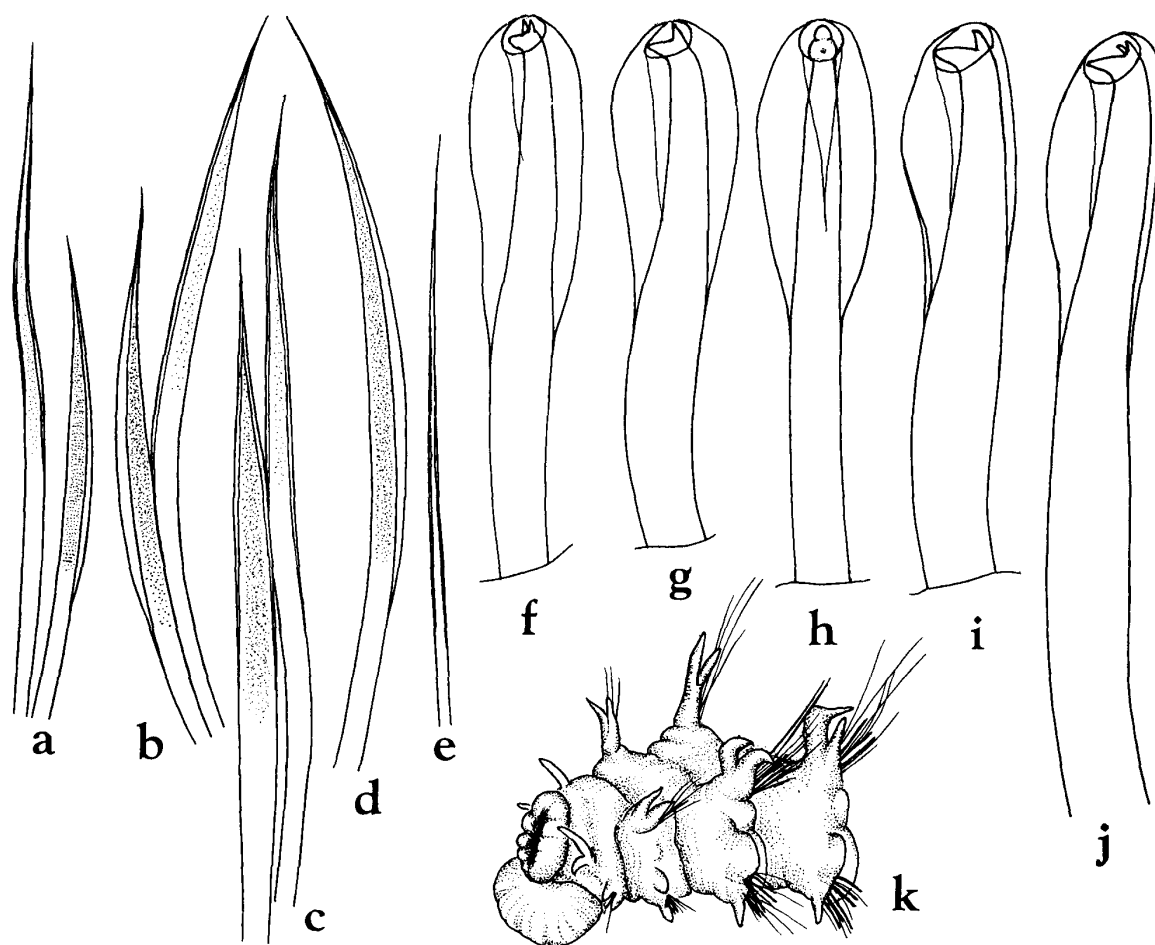


Fig. 10. *Scolelepis (Scolelepis) sagittaria* sp. nov. — a, Neuropodial setae in anterior and posterior rows from setiger 1,  $\times 375$ ; b, neuropodial setae in anterior and posterior rows from setiger 4,  $\times 375$ ; c, neuropodial setae in anterior and posterior rows from setiger 14,  $\times 375$ ; d, neuropodial seta in anterior row from setiger 14,  $\times 375$ ; e, neuropodial companion seta from setiger 40,  $\times 375$ ; f, neuropodial hooded hook in superior position from setiger 40,  $\times 680$ ; g, h, neuropodial hooded hooks in inferior position from setiger 40, lateral (g) and frontal (h) views,  $\times 680$ ; i, neuropodial hooded hook in inferior position from posterior setiger,  $\times 680$ ; j, notopodial hooded hook from posterior setiger,  $\times 680$ ; k, pygidium and posterior 4 setigers, dorso-lateral view,  $\times 42$ .

hooks, which are tridentate and the neuropodial hooks, which are mostly bidentate. *Scolelepis sagittaria* differs from *S. balihaiensis* in having rather than lacking an occipital tentacle on the prostomium and notopodial setae on setiger 1.

*Type-series.* Holotype, NSMT-Pol. H 340; 5 paratypes, NSMT-Pol. P 341.

*Distribution.* Japan; 50 m.



*Scolelepis (Scolelepis) kudenovi* HARTMANN-SCHRÖDER, 1981

(Figs. 11a–g, 12a–p)

*Scolelepis (Scolelepis) kudenovi* HARTMANN-SCHRÖDER, 1981, p. 52, fig. 124–129; MACIOLEK, 1987, p. 18.*Material examined.* Off Shimoda, in 45 m (16), III–1977.*Description.* Largest complete individual with 81 setigers, measuring 45 mm in length and 1.5 mm in width including parapodia.

Prostomium conical, extended anteriorly to long, tapering point, posteriorly pointed, ending at posterior margin of setiger 1; occipital tentacle absent; 4 eyes present, but obscure in dorsal view. Palps extending to about setiger 20, lacking basal sheaths. Peristomium separated from setiger 1, forming lateral wings (Fig. 11a, b).

Setiger 1 with lanceolate noto- and neuropodial lamellae, notopodial lamellae smaller than neuropodial lamellae; capillary setae present in both rami (Fig. 11c). Branchiae present from setiger 2, fused to notopodial lamellae for approximately half the length in anterior setigers (Fig. 11d–f) and for approximately one-third the length in posterior setigers (Fig. 12a, b); posterior notopodial lamellae flaglike, with upper and lower corners pointed (Fig. 12c, d). Notopodial presetal lamellae rounded throughout (Figs. 11d, f, g, 12a, d). Neuropodial postsetal lamellae mammiform anteriorly (Fig. 11d, e), becoming low, rounded (Fig. 11f), slight notch beginning on setiger 24–27, divided into interramal lamellae and ventral cirri (Fig. 11g); interramal lamellae slightly elongated dorsally, upper edge of lamellae overlapping pointed ventral portion of notopodial lamellae (Fig. 12a–d). Neuropodial postsetal lamellae increasing in transverse length (Fig. 12b–d).

Anterior setae all capillaries, limbate, moderately granulated, arranged in 2 rows (Fig. 12e–h). Neuropodial hooded hooks present from setiger 26–30, numbering up to 17 per fascicle, accompanied by 3–4 slender capillaries (Fig. 12k); notopodial hooded hooks present from setiger 55–62, numbering 2–3 per fascicle; hooks all bidentate, posterior noto- and neuropodial hooks bearing very long primary hood (Fig. 12l, m).

Pygidium with ventral, entire cushion; anus dorsal (Fig. 12n–p).

*Remarks.* The specimens from Japanese waters agree well with those from Australia (HARTMANN-SCHRÖDER, 1981) in the structures of the parapodia and hooded hooks. However, the Japanese specimens have neuropodial hooks from setiger 26–30, rather than setiger 44 and notopodial hooks from setiger 55–62, rather than setiger 98. The specimens examined are similar to *Scolelepis squamata* (MÜLLER, 1806) from Denmark (as described in MACIOLEK, 1987) in the prostomial shape and the parapodial structures. However, the present specimens differ from *S. squamata* in that the noto- and neuropodial setigers have only bidentate hooded hooks, rather than uni-, bi- and tridentate hooded hooks.

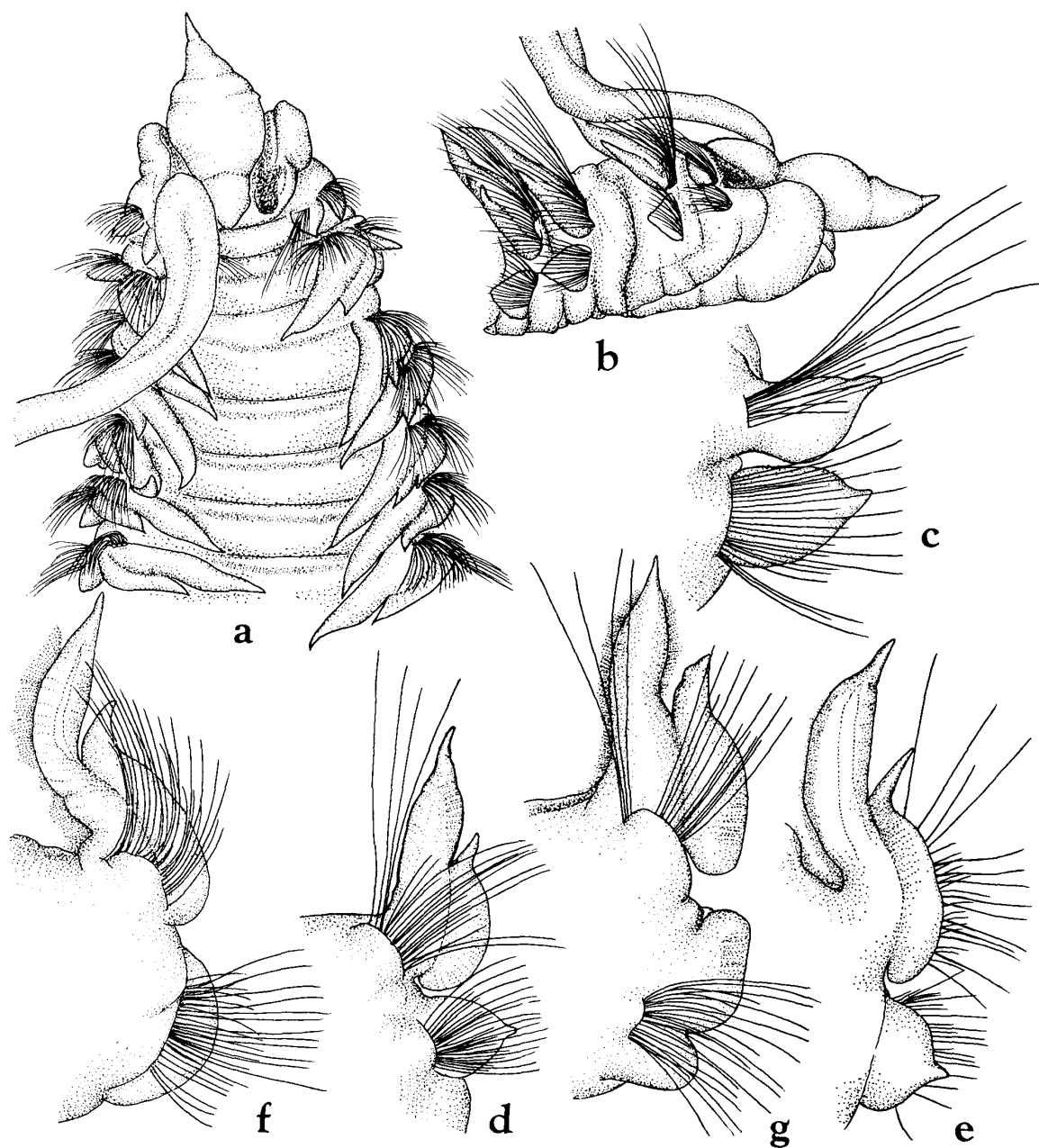


Fig. 11. *Scololepis (Scololepis) kudenovi* HARTMANN-SCHRÖDER. — a, Anterior end, dorsal view,  $\times 37$ ; b, same, lateral view,  $\times 37$ ; c, setiger 1, anterior view,  $\times 88$ ; d, setiger 2, anterior view,  $\times 58$ ; e, setiger 4, posterior view,  $\times 58$ ; f, setiger 10, anterior view,  $\times 58$ ; g, setiger 25, anterior view,  $\times 58$ .

The species is newly recorded from Japan.

*Distribution.* Australia; Japan; 45 m.



Fig. 12. *Scolelepis (Scolelepis) kudenovi* HARTMANN-SCHRÖDER. — a, Setiger 30, anterior view,  $\times 58$ ; b, setiger 40, posterior view,  $\times 58$ ; c, setiger 60, posterior view,  $\times 58$ ; d, far posterior setiger, anterior view,  $\times 58$ ; e, f, notopodial setae in anterior row (e) and posterior row (f) from setiger 10,  $\times 240$ ; g, h, neuropodial setae in anterior row (g) and posterior row (h) from setiger 10,  $\times 240$ ; i, neuropodial hooded hook from setiger 40, lateral view,  $\times 638$ ; j, distal end of same hook, front-lateral view,  $\times 900$ ; k, companion seta from setiger 40,  $\times 353$ ; l, neuropodial hooded hook from far posterior setiger, frontal view,  $\times 638$ ; m, notopodial hooded hook from same setiger, lateral view,  $\times 638$ ; n–p, pygidium and 3 setigers, dorsal (n), ventral (o) and lateral (p) views,  $\times 44$ .

*Scolelepis (Scolelepis) variegata* sp. nov.

(Figs. 13a–h, 14a–k)

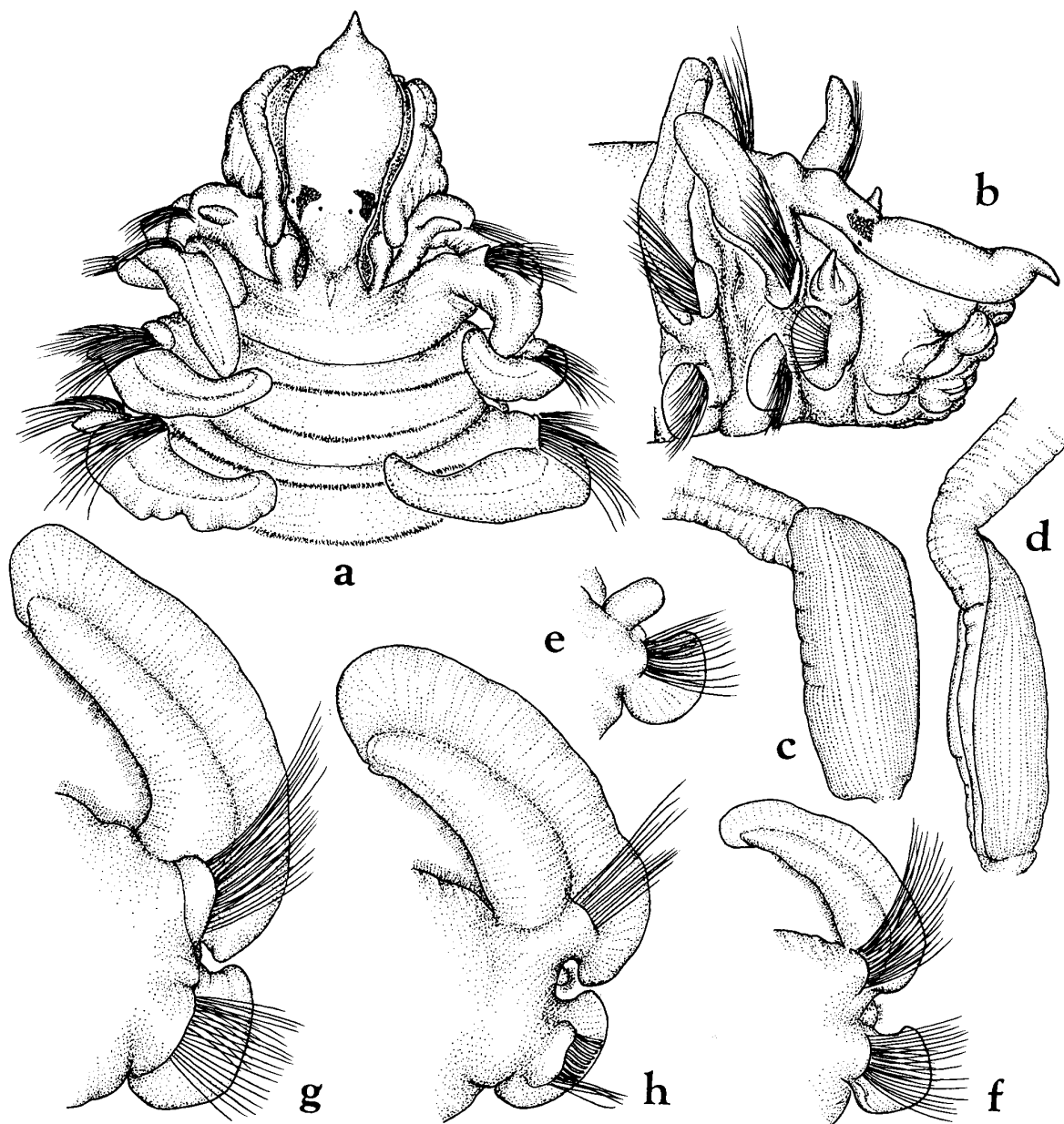
*Material examined.* Mukaishima, Hiroshima Pref., intertidal zone (holotype

Fig. 13. *Scolelepis (Scolelepis) variegata* sp. nov. — a, Anterior end, in dorsal view,  $\times 20$ ; b, same, lateral view,  $\times 20$ ; c, d, basal sheath of palps,  $\times 23$ ; e, setiger 1, anterior view,  $\times 23$ ; f, setiger 2, anterior view,  $\times 23$ ; g, setiger 16, anterior view,  $\times 23$ ; h, setiger 29, anterior view,  $\times 23$ .

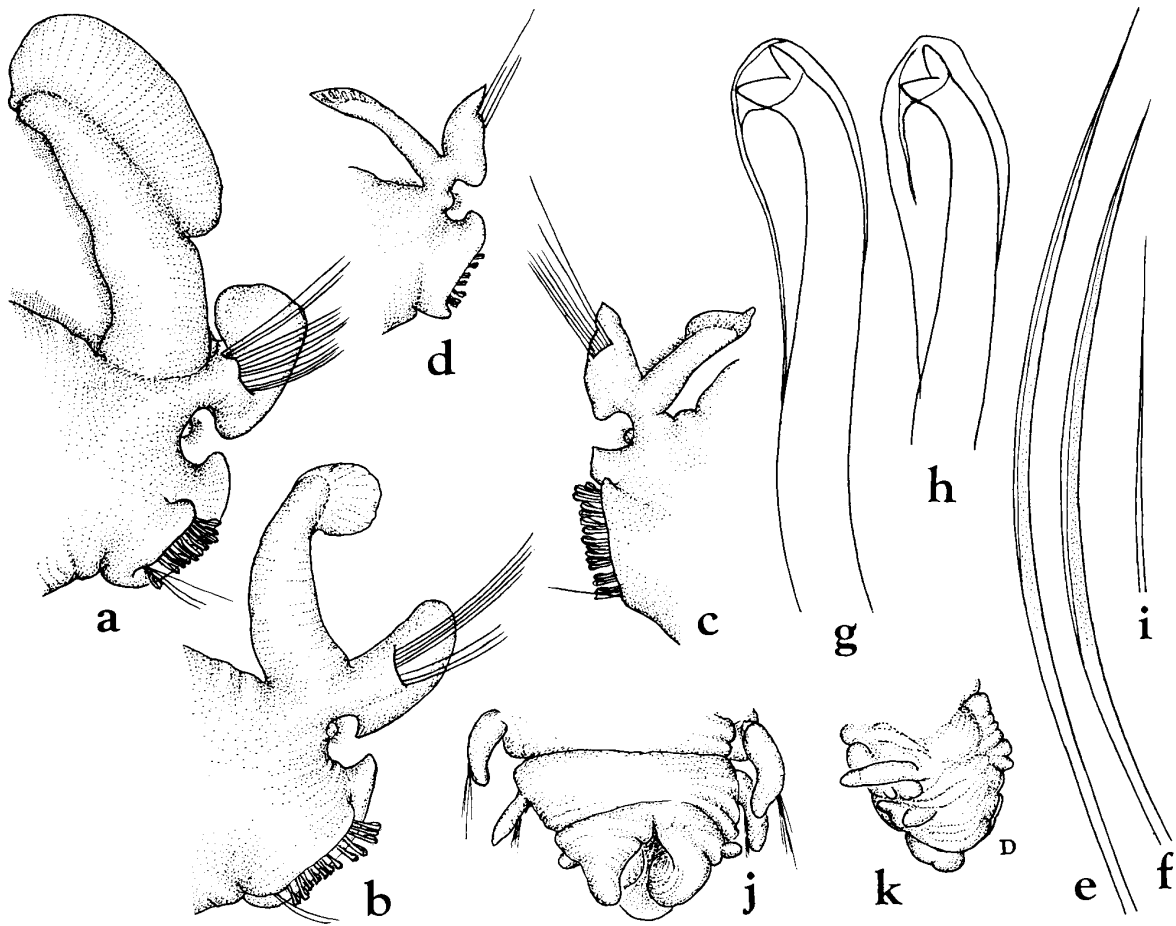


Fig. 14. *Scolelepis (Scolelepis) variegata* sp. nov. — a, Setiger 30, anterior view,  $\times 23$ ; b, setiger 40, anterior view,  $\times 23$ ; c, posterior setiger, anterior view,  $\times 23$ ; d, far posterior setiger, posterior view,  $\times 23$ ; e, notopodial capillary seta from setiger 16,  $\times 130$ ; f, neuropodial capillary seta from same setiger,  $\times 130$ ; g, h, neuropodial hooded hooks, lateral (g) and front-lateral (h) views,  $\times 450$ ; i, inferior capillary seta of neuropodium from setiger 40,  $\times 130$ ; j, pygidium and 2 setigers, dorsal view,  $\times 42$ ; k, pygidium, lateral view, (D) showing dorsal side,  $\times 42$ .

and 2 paratypes), X-1966. Kabira Bay, Ishigakijima, intertidal zone (4), VI-1973.

*Description.* Holotype largest complete individual with 74 setigers, measuring 31 mm in length and 3.6 mm in width at anterior region including parapodia.

Prostomium conical, distally pointed, posterior with rounded swelling just behind 2 pairs of small eyes; nuchal papilla present on setiger 2; 2 subtriangular, brown pigmented areas present lateral to eyes (Fig. 13a, b). Peristomium separated from setiger 1, with lateral wings (Fig. 13a). Palps extending back to setiger 30, with smooth basal sheath on anterior side of base (Fig. 13c, d).

Setiger 1 with small, oval, noto- and neuropodial lamellae; capillary setae present on neuropodia, lacking on notopodia (Fig. 13e). Notopodial lamellae completely

fused with branchiae from setiger 2 to setiger 29 (to setiger 25 in paratypes) (Fig. 13f–h), thereafter lamellae separated from branchiae, with flaglike distal lamella (Fig. 14a); notopodia gradually reduced to subtriangular lamellae (Fig. 14c, d), branchiae becoming elongate, straplike, with small flaglike distal lamella (Fig. 14b–d). Notopodial presetal lamellae rounded in anterior setigers (Fig. 13f, g), becoming reduced in posterior setigers (Fig. 14b, c). Neuropodial postsetal lamellae rounded in anterior setigers (Fig. 13e–h), becoming elliptical in posterior setigers (Fig. 14a–d); lateral ciliated organs present at interrampal channel between notopodial and neuropodial lamellae (Fig. 13h).

Anterior setae all limbate, moderately granulated capillaries, arranged in 2 rows (Fig. 14e, f). Neuropodial hooded hooks present from setiger 27 (setiger 24–25 in paratypes); hooks bidentate with distinct secondary tooth, numbering up to 16 per fascicle (Fig. 14g, h), with 1–4 thin limbate capillaries in inferior position of fascicle (Fig. 14i); notopodial hooks lacking.

Pygidium with small ventral lobe and 2 lateral lamellae, anus with wide opening (Fig. 14j, k).

*Remarks.* *Scoelepis variegata* is closely related to *S. victoriensis* BLAKE and KUDENOV, 1978, from southeastern Australia, in having the prostomial swelling and separate nuchal papilla. However, *S. variegata* is distinguished by the presence of a pair of subtriangular, brown pigmented areas on the prostomium and by the nature of the hooded hook, which has a stout secondary tooth. *Scoelepis variegata* is also similar to *S. aitutakii* GIBBS, 1972, from the Cook Islands and *S. vexillatus* HUTCHINGS and RAINER, 1979, from New South Wales in the nature of the parapodia and the hooded hooks, but can be distinguished from them by the prostomial features.

*Type-series.* Holotype, NSMT-Pol. H 342; 2 paratypes, NSMT-Pol. P 343.

*Distribution.* Japan; intertidal zone.

***Scoelepis (Scoelepis) planata* sp. nov.**

(Figs. 15a–h, 16a–i)

*Material examined.* Off Zushi, Sagami Bay, 35°16.3'N, 139°33.2'E, in 12 m (holotype and 1 paratype), X-1985.

*Description.* Holotype incomplete, 9 mm in length and 2 mm in width including parapodia at anterior part for 34 setigers; paratype complete, 14 mm in length and 1.5 mm in width for 52 setigers. Color in alcohol opaque white.

Prostomium anteriorly truncated, inflated with medial, conical protuberance; subapically depressed, elevated posteriorly into flattened occipital tentacle with entire margin and distal point (Fig. 15a, b); eyes obscure in holotype, but 4 eyes clear in paratype; palps missing. Peristomium moderately developed, with short, lateral wings erected in posterior half (Fig. 15a–c).

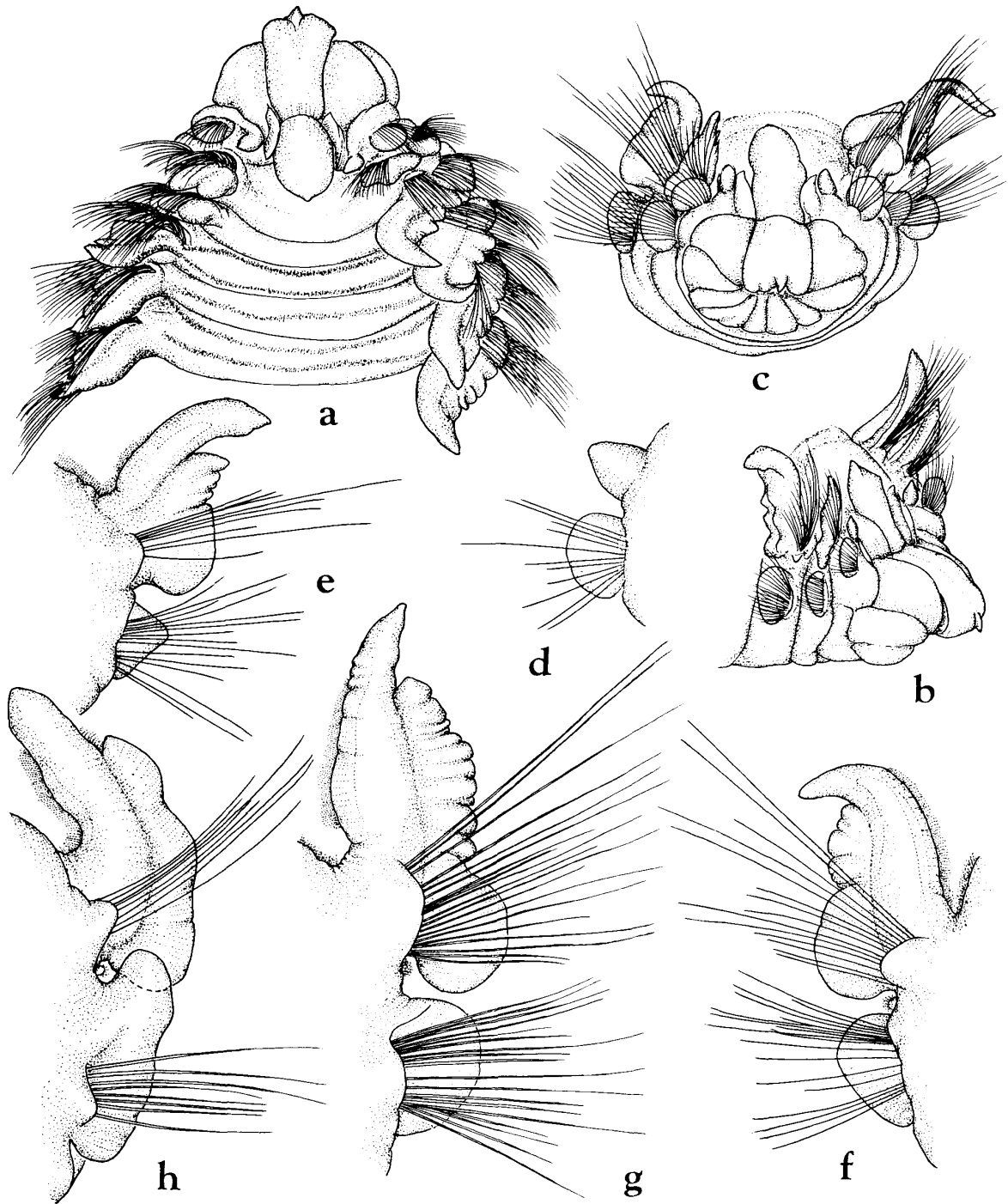


Fig. 15. *Scolelepis (Scolelepis) planata* sp. nov. — a, Anterior end, dorsal view,  $\times 32$ ; b, same, front-lateral view,  $\times 32$ ; c, same, frontal view,  $\times 32$ ; d, setiger 1, anterior view,  $\times 58$ ; e, setiger 2, anterior view,  $\times 58$ ; f, setiger 3, anterior view,  $\times 58$ ; g, setiger 11, anterior view,  $\times 58$ ; h, setiger 19, anterior view,  $\times 58$ .

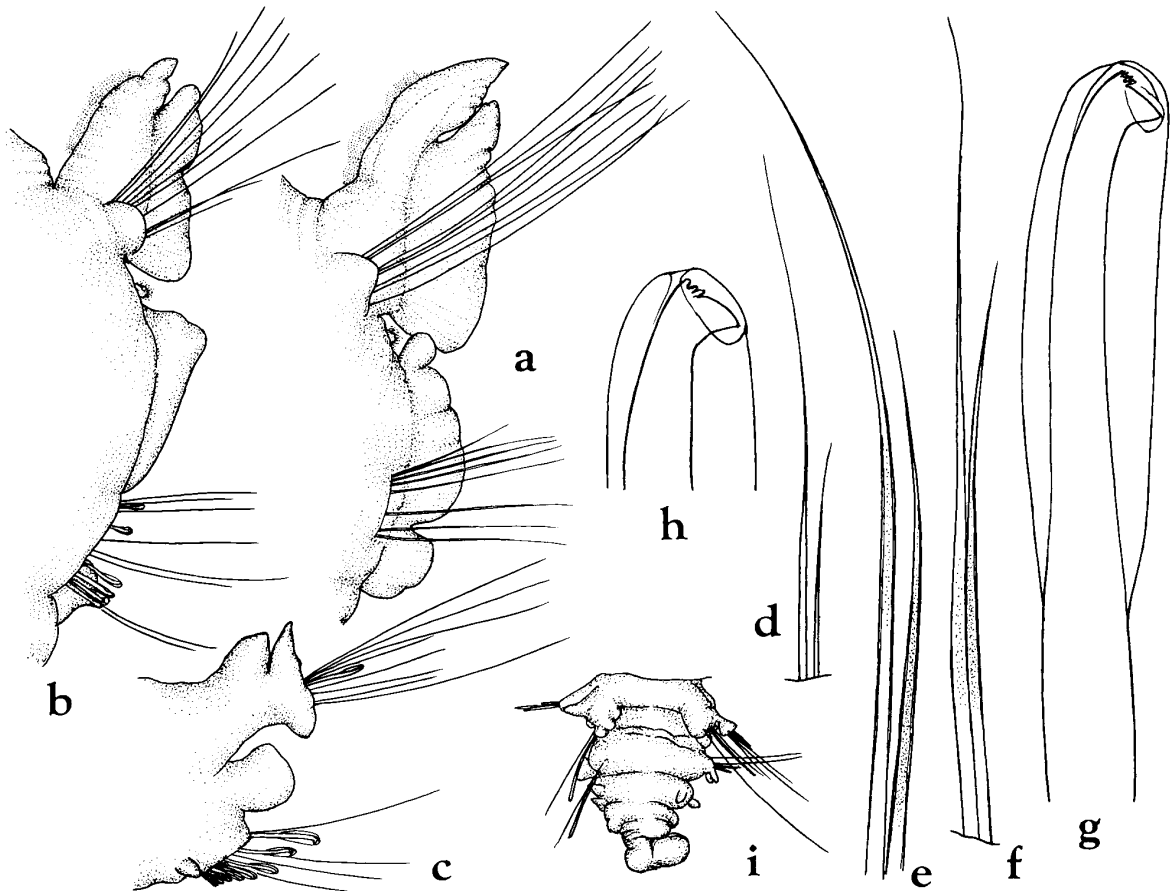


Fig. 16. *Scolelepis (Scolelepis) planata* sp. nov. — a, Setiger 21, anterior view,  $\times 58$ ; b, setiger 30, anterior view,  $\times 47$ ; c, posterior setiger, anterior view,  $\times 58$ ; d, neuropodial setae from setiger I,  $\times 180$ ; e, notopodial setae from setiger 11,  $\times 180$ ; f, neuropodial setae from same setiger,  $\times 180$ ; g, neuropodial hooded hook,  $\times 900$ ; h, distal end of neuropodial hooded hook,  $\times 900$ ; i, pygidium, dorsal view,  $\times 40$ .

Setiger 1 reduced, with small conical notopodial lamellae and rounded neuropodial lamellae; notopodial setae lacking (Fig. 15d). Notopodial lamellae distally free from branchiae from setiger 2 (Fig. 15e) through end of body; anterior lamellae greatly folded, lower portion of lamellae rounded, directed ventrally toward dorsal portion of neuropodial postsetal lamellae (Fig. 15f, g); thereafter lamellae gradually decreasing in length posteriorly (Fig. 16a–c). Branchiae robust, wide, increasing in size over anterior region, decreasing in length posteriorly. Notopodial presetal lamellae low, rounded. Neuropodial postsetal lamellae rounded anteriorly (Fig. 15g), thereafter lamellae elongated, dorsal portion overlapping notopodial lamellae (Fig. 15h); slight notch developing on setiger 21 (Fig. 16a), lamellae becoming divided into large, flattened interrampal lamella and small ventral lobe (Fig. 16b); interrampal lamellae gradually becoming smaller, square in far posterior setigers (Fig. 16c).



Anterior setae all narrow, thinly sheathed capillaries, arranged in 2 rows; neuropodial setae on setiger 1 very slender with ciliary distal end (Fig. 16d); capillaries of subsequent setigers better developed, setae of anterior row shorter and more heavily granulated than setae of posterior row (Fig. 16e, f). Neuropodial hooded hooks from setiger 19, numbering up to 8 per fascicle; single notopodial hooded hook from setiger 45 of paratype. Hooks with 3–4 pairs of rudimentary apical teeth surmounting large, sharp main fang; shaft with long primary hood (Fig. 16g, h).

Pygidium of paratype slightly bilobed disc ventral to anus (Fig. 16i).

*Remarks.* *Scolecopsis planata* is closely related to *S. occipitalis* BLAKE and KUDENOV, 1978, from New South Wales in having a characteristic flat occipital tentacle. However, *Scolecopsis planata* is distinguished from *S. occipitalis* in that the occipital tentacle is entire with pointed tip, rather than irregularly branched, and hooded hooks have 3–4 pairs of multidentate apical teeth, rather than 2 pairs of apical teeth.

*Type-series.* Holotype, NSMT-Pol. H 344; 1 paratype, NSMT-Pol. P 345.

*Distribution.* Japan; 12 m.

#### Subgenus *Parascolecopsis* MACIOLEK, 1987

#### *Scolecopsis (Parascolecopsis) yamaguchii* (IMAJIMA, 1959)

(Fig. 17a–n)

*Nerinides yamaguchii* IMAJIMA, 1959, pp. 155–165, 3 pls.

*Scolecopsis (Nerinides) yamaguchii*: PETTIBONE, 1963, p. 93.

*Scolecopsis (Parascolecopsis) yamaguchii*: MACIOLEK, 1987, p. 20.

*Material examined.* Shirikishinai, Hokkaido, intertidal zone, IV–1955 (10). Sawaki, Hokkaido, intertidal zone, VIII–1960 (1).

*Description.* Largest specimen 50 mm in length and 4.5 mm in width for 102 setigers. Prostomium anteriorly pointed, ending bluntly on setiger 1 with erect occipital tentacle at posterior margin; 4 eyes present (Fig. 17a). Palps extending posteriorly as far as setiger 10, with basal sheath bearing 8–14 triangular papillae (Fig. 17b, c). Peristomium completely distinct from setiger 1, forming small lateral wings (Fig. 17a).

Notopodial postsetal lamellae small, digitiform on setiger 1 (Fig. 17d), completely fused with branchiae from setiger 2 through posterior setigers (Fig. 17e–j); lamellae small, rounded in far posterior setigers (Fig. 17j). Neuropodial postsetal lamellae rounded anteriorly (Fig. 17d, e), thereafter elongated dorsally, becoming less rounded (Fig. 17f, g) and eventually forming square interramal lamellae (Fig. 17h, i); ventral lamellae lacking.

Anterior noto- and neuropodia with sheathed capillaries (Fig. 17k) arranged in 2 rows; setae present in both noto- and neuropodia on setiger 1. Neuropodial hooded hooks present from setiger 20–21; hooks with 2 pairs of well-developed apical teeth surmounting sharp main fang, shaft long, slightly curved, with long primary hood

(Fig. 17l, m); hooks numbering 20 per fascicle in setiger 30, 30 per fascicle in setiger 70, thereafter gradually decreasing in number posteriorly. Notopodial hooded hooks lacking.

Pygidium with distinctly bilobed disc ventral to anus (Fig. 17n).

*Remarks.* *Scolecopsis yamaguchii* is closely related to *S. tridentata* SOUTHERN, 1914, from the North Atlantic. Both species have an occipital tentacle, palps with papillated basal sheath, notopodial setae on setiger 1, multidentate hooded hooks and a bilobed pygidium. However, *Scolecopsis yamaguchii* can be distinguished from *S. tridentata* in that the body is larger (50 mm long for 102 setigers, rather than 16–20 mm long for 61–70 setigers), and the notopodial lamellae are completely fused with the branchiae through the posterior setigers of the body rather than distally free in the posterior setigers.

*Distribution.* Hokkaido, Japan; intertidal zone.

*Scolecopsis (Parascolecopsis) geniculata* sp. nov.

(Figs. 18a–j, 19a–m)

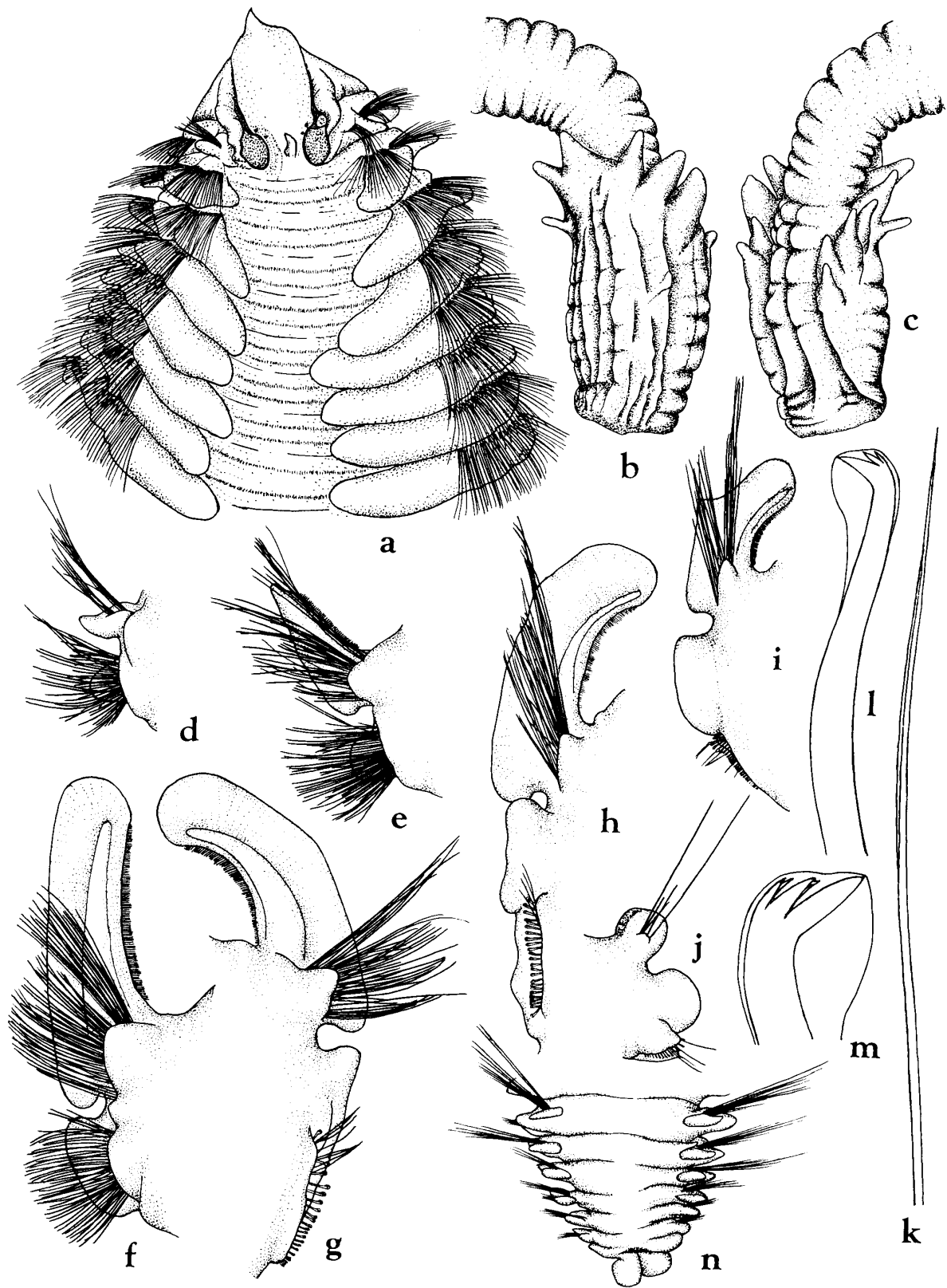
*Material examined.* Off Asamushi, in 9 m (holotype), VIII–1971. Tsukumo Bay, in 20–21 m (23), V–1973. Sasebo Bay, 33°03.3'N, 128°44.1'E, in 5 m (4), VIII–1972, coll. Nagasaki Fish. Exp. Sta.

*Description.* Holotype complete individual with 49 setigers, measuring 11 mm in length and about 1 mm in width at anterior region including parapodia. Body slender, subcylindrical, filled with oocytes.

Prostomium anteriorly pointed, with cephalic crest on posterior part extending to setiger 1; 4 eyes and erect occipital tentacle present (Fig. 18a, b). Peristomium partly fused with setiger 1, lacking lateral wings (Fig. 18b). Palps extending posteriorly to setiger 12, with basal sheath bearing 12 triangular papillae laterally (Fig. 18c, d).

Setiger 1 with small subtriangular noto- and neuropodial lamellae; capillary setae present in both rami (Fig. 18e). Notopodial postsetal lamellae completely fused with branchiae on setigers 2–14 (Fig. 18f–j), distally free from branchiae on setiger 15 (Fig. 19a); branchiae becoming elongate, digitiform with expanded, flaglike tip bearing yellow pigment in median setigers (Fig. 19b, c); thereafter branchia becoming shorter (Fig. 19d), absent in posterior setigers (Fig. 19e). Notopodial presetal lamellae digitiform, conspicuous on setigers 2–14 (Fig. 18f–j). Neuropodial postsetal lamellae elongate, oval through setiger 14 (Fig. 18j); thereafter lamellae becoming flattened,

Fig. 17. *Scolecopsis (Parascolecopsis) yamaguchii* (IMAJIMA). — a, Anterior end, dorsal view,  $\times 18$ ; b, c, palpal sheaths,  $\times 47$ ; d, setiger 1, anterior view,  $\times 23$ ; e, setiger 2, anterior view,  $\times 23$ ; f, setiger 10, anterior view,  $\times 23$ ; g, setiger 30, anterior view,  $\times 23$ ; h, setiger 60, anterior view,  $\times 23$ ; i, setiger 80, anterior view,  $\times 23$ ; j, posterior setiger, anterior view,  $\times 35$ ; k, notopodial capillary seta,  $\times 140$ ; l, hooded hook from setiger 60,  $\times 390$ ; m, tip of hooded hook,  $\times 840$ ; n, pygidium, dorsal view,  $\times 16$ .



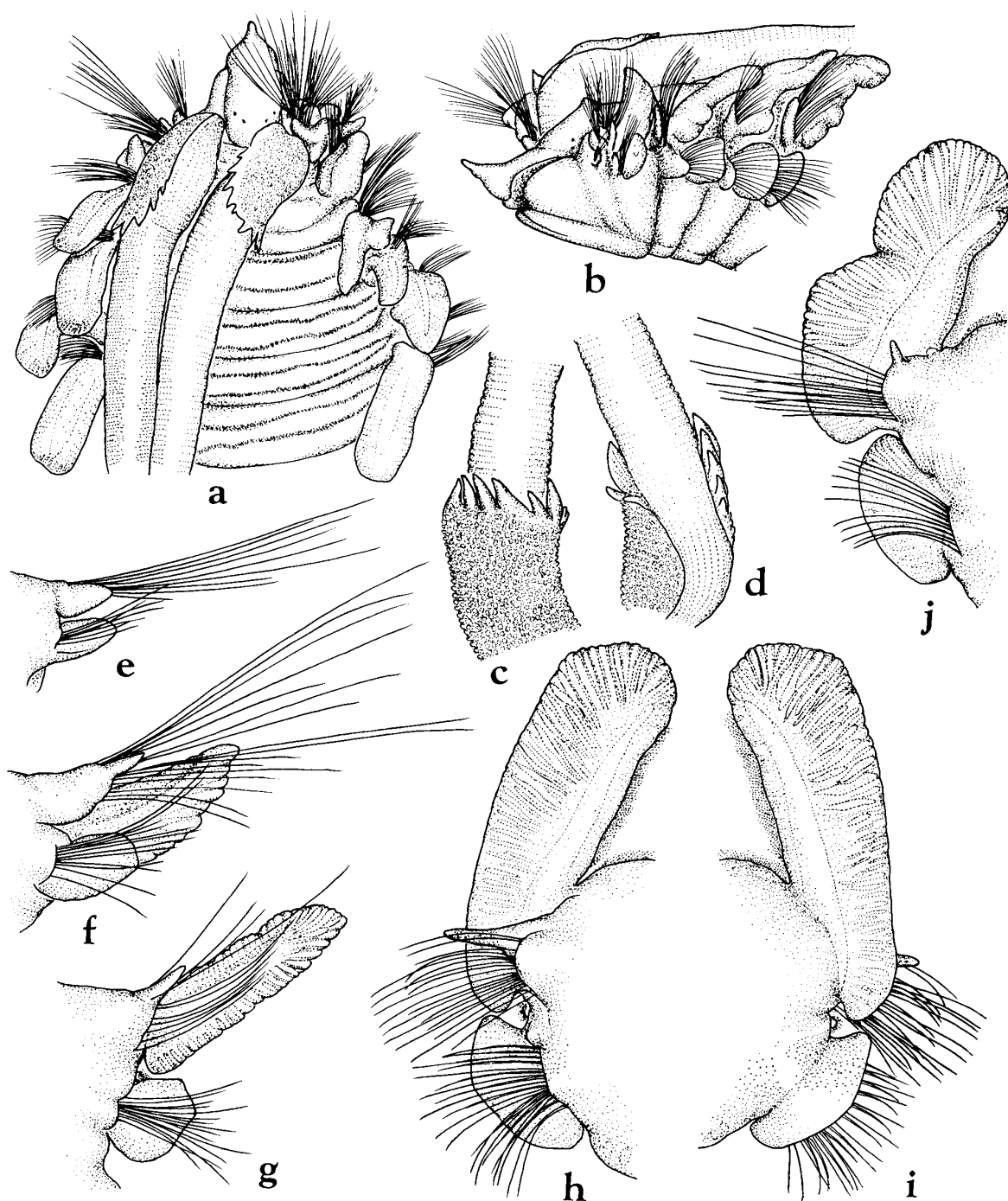


Fig. 18. *Scolelepis (Parascolelepis) geniculata* sp. nov. — a, Anterior end, dorsal view,  $\times 40$ ; b, same, lateral view,  $\times 40$ ; c, d, palpal sheaths,  $\times 58$ ; e, setiger 1, anterior view,  $\times 80$ ; f, setiger 2, anterior view,  $\times 80$ ; g, setiger 3, anterior view,  $\times 80$ ; h, setiger 10, anterior view,  $\times 80$ ; i, same, posterior view,  $\times 80$ ; j, setiger 14, anterior view,  $\times 80$ .

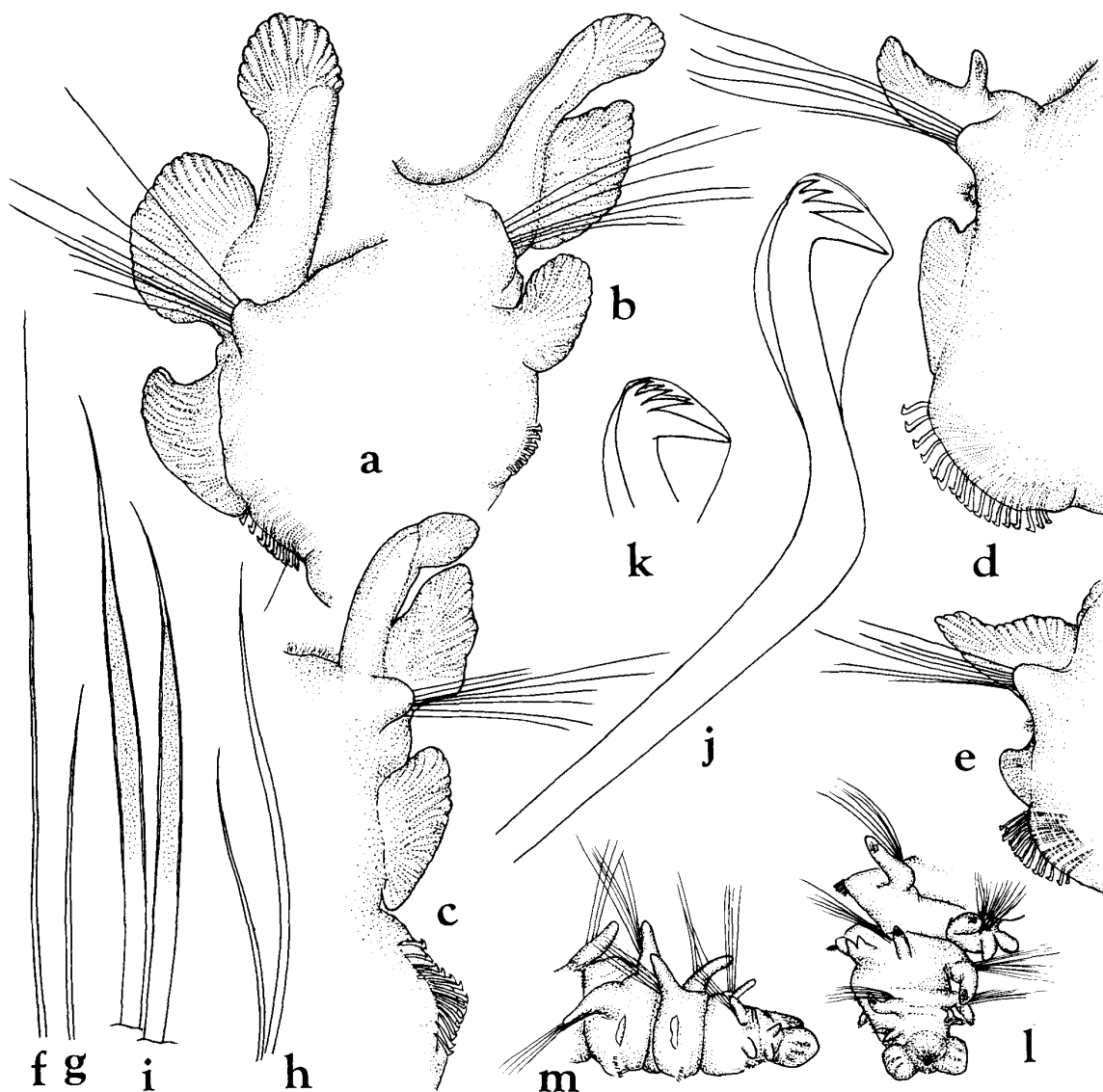


Fig. 19. *Scolelepis* (*Parascolelepis*) *geniculata* sp. nov. — a, Setiger 15, anterior view,  $\times 85$ ; b, setiger 18, anterior view,  $\times 85$ ; c, setiger 21, anterior view,  $\times 85$ ; d, setiger 40, anterior view,  $\times 85$ ; e, setiger 44, anterior view,  $\times 85$ ; f, superior notopodial seta from setiger 1,  $\times 190$ ; g, inferior notopodial seta from same setiger,  $\times 190$ ; h, notopodial setae from setiger 15,  $\times 190$ ; i, neuropodial setae from setiger 10,  $\times 375$ ; j, neuropodial hooded hook from setiger 15,  $\times 960$ ; k, tip of hooded hook,  $\times 960$ ; l, pygidium, dorsal view,  $\times 47$ ; m, same, lateral view,  $\times 47$ .

directed dorsally, positioned dorsal to setae in posterior setigers (Fig. 19a–e). Ciliated sensory organs present between rami (Fig. 18h).

Anterior setae all capillaries through setiger 14; first 2 setigers with very long, slender notopodial setae (Fig. 18e, f); superior notopodial capillaries (Fig. 19f) longer than inferior ones (Fig. 19g); subsequent notopodial setae becoming shorter,

arranged in 2 rows (Fig. 19h). Neuropodial capillary setae thick, granulated, with narrow sheaths (Fig. 19i). Neuropodial hooded hooks present from setiger 15, numbering 8 per fascicle; shaft of hook distinctly geniculate, with 3 pairs of apical teeth surmounting sharp main fang (Fig. 19j, k); posterior neuropodia with 13–17 hooks per fascicle; notopodial hooks lacking.

Pygidium with ventral disc widely separated into 2 lobes, with 1 achaetous preanal segment. Anus dorsal, surrounded by crenulate margin (Fig. 19l, m).

*Remarks.* *Scoelepis geniculata* is closely related to *S. bousfieldi* PETTIBONE, 1963 from the Gulf of St. Lawrence in having characteristic neuropodial hooded hooks with geniculated shafts. However, *Scoelepis geniculata* is distinguished in that the anterior notopodial presetal lamellae are conspicuously elongated and digitiform, rather than moderately triangular. Also the pygidial ventral disc of *S. geniculata* is widely separated into 2 lobes, rather than being an entire oval disc.

*Type.* Holotype, NSMT-Pol. H 346.

*Distribution.* Japan; 5–21 m.

### *Scoelepis (Parascoelepis) texana* FOSTER, 1971

(Figs. 20a–g, 21a–h)

*Scoelepis (Scoelepis) texana* FOSTER, 1971, pp. 63–64, figs. 132–142.

*Scoelepis (Parascoelepis) texana*: MACIOLEK, 1987, pp. 34–36, fig. 10.

*Material examined.* Ishikari Bay, 43°13.0'N, 141°10.0'E, in 23 m (1), 43°17.3'N, 140°41.3'E, in 64 m (4), 43°24.6'N, 141°03.5'E, in 66 m (4), V–1987. Samani, Hokkaido, 42°04.6'N, 142°54.7'E, in 60 m (7), VII–1971. Off Oshima, Mutsu Bay, 41°02.5'N, 140°51.0'E, in 53 m (24), off Isoyama, Mutsu Bay, 41°05.0'N, 140°41.1'E, in 64 m (10), I–1973. Off Noheji, Mutsu Bay, 40°57.5'N, 141°08.3'E, in 39 m (7), off Futagoshima, Mutsu Bay, 41°00.0'N, 140°47.5'E, in 51 m (10), off Kawauchi, Mutsu Bay, 41°07.5'N, 140°58.3'E, in 38 m (3), II–1973. Miyako Bay, 39°38.8'N, 142°00.3'E, in 45 m (5), VII–1967. Yamada Bay, in 27 m (4), in 60 m (6), in 83 m (11), VII–1967. Otsuchi Bay, 39°20.5'N, 141°57.2'E–39°20.6'N, 141°57.4'E, in 43–45 m (3), 39°22.9'N, 141°59.8'E–39°23.1'N, 141°59.9'E, in 83–85 m (1), VIII–1979. Kamaishi Bay, in 42 m (1), in 58 m (3), XI–1973. Tokyo Bay, 35°20.5'N, 139°41.0'E, in 38 m (2), VI–1973. Sagami Bay, 35°13.2'N, 139°34.0'E–35°13.4'N, 139°34.1'E, in 67 m (3), IX–1979. Sea of Enshu, 35°37.2'N, 137°49.8'E, in 60 m (1), V–1967. Off Oga Peninsula, 40°06.0'N, 139°45.8'E–40°06.3'N, 139°45.5'E, in 68 m (1), VI–1983. Tsukumo Bay, Noto Peninsula, in 20–25 m (35), off Tsukumo Bay, Noto Peninsula, in 26 m (7), V–1973. Maizuru Bay, in 17 m (1), VIII–1975. Sasebo Bay, 33°04.4'N, 128°44.0'E, in 20 m (3), 33°08.2'N, 128°42.8'E, in 12 m (1), VIII–1972. Off Nagasaki Harbor, in 54 m (1), III–1971.

*Description.* All material posteriorly incomplete; largest fragment with 42 setigers, measuring 13 mm in length and 2.2 mm in width including parapodia. Body slender, subcylindrical.

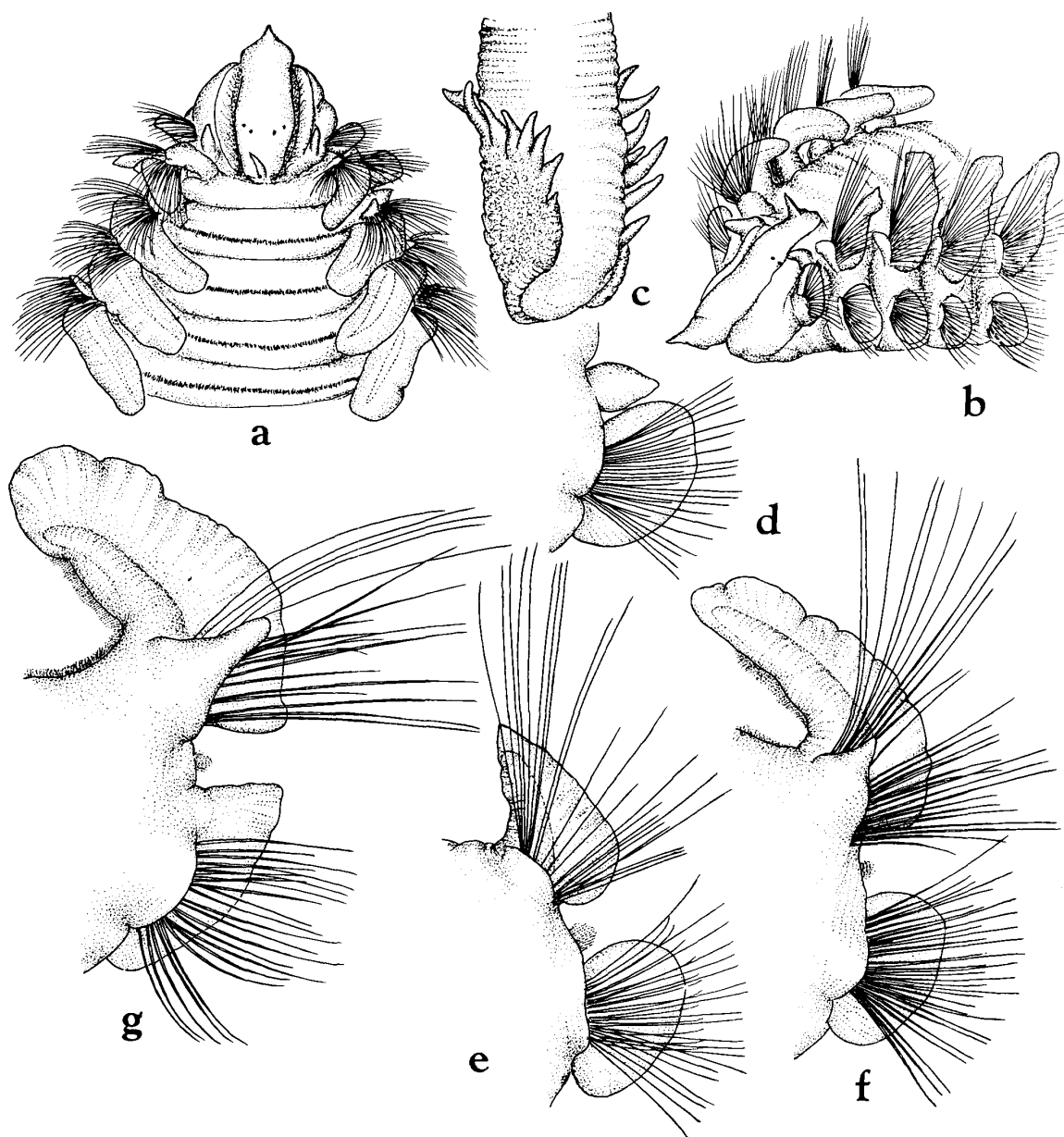


Fig. 20. *Scolelepis* (*Parascolelepis*) *texana* FOSTER. — a, Anterior end, dorsal view,  $\times 22$ ; b, same, dorsolateral view,  $\times 22$ ; c, papillated palpal sheath,  $\times 54$ ; d, setiger 1, anterior view,  $\times 54$ ; e, setiger 2, anterior view,  $\times 54$ ; f, setiger 3, anterior view,  $\times 54$ ; g, setiger 16, anterior view,  $\times 54$ .

Prostomium conical, pointed anteriorly, ending bluntly on setiger 1 with erect occipital tentacle present near posterior margin; 4 eyes present (Fig. 20a, b). Peristomium partly separated from setiger 1, forming lateral wings (Fig. 20a). Palps with papillated basal sheath; papillae triangular, numbering about 20 (Fig. 20c).

Notopodial lamellae small, conical on setiger 1 (Fig. 20d); lamellae completely

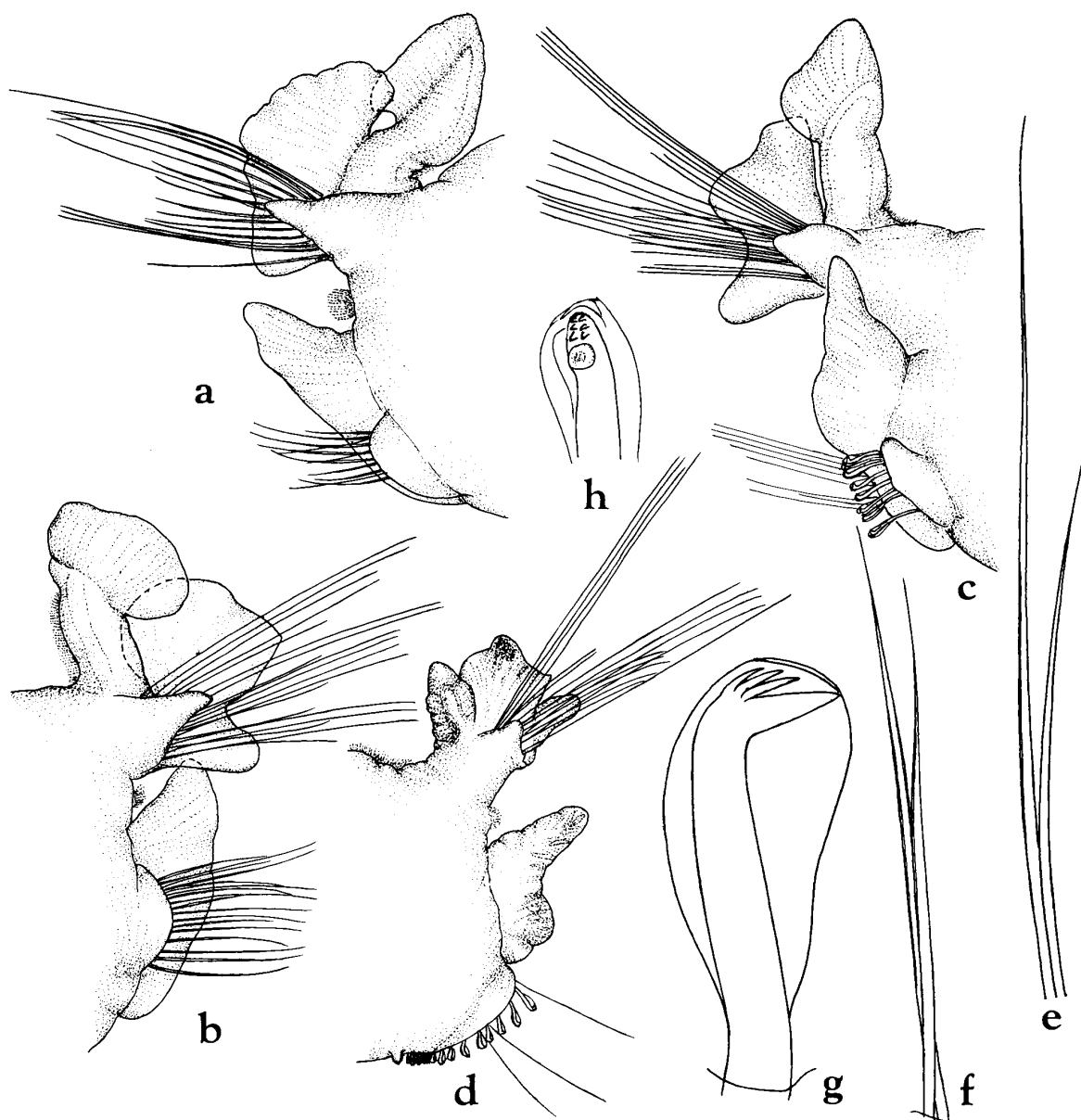


Fig. 21. *Scolelepis* (*Parascolelepis*) *texana* FOSTER. — a, Setiger 17, anterior view,  $\times 54$ ; b, setiger 18, anterior view,  $\times 54$ ; c, setiger 21, anterior view,  $\times 54$ ; d, setiger 35, anterior view,  $\times 54$ ; e, notopodial setae in anterior and posterior rows from setiger 16,  $\times 180$ ; f, neuropodial setae in anterior and posterior rows from same setiger,  $\times 180$ ; g, h, neuropodial hooded hooks, lateral (g) and frontal (h) views,  $\times 900$ .

fused with branchiae from setiger 2 through setiger 16 (Fig. 20e–g); thereafter lamellae partially separated from branchiae on setiger 17–18 (Fig. 21a); lamellae completely separated from branchiae on setiger 18–19 (Fig. 20i). Notopodial presetal lamellae low, rounded on setiger 2 (Fig. 20e); lamellae of subsequent setigers conspicuously elongated, triangular, maximally developed on setiger 20, protruding distally nearly



to outer margin of notopodial lamellae (Figs. 20g, 21a), decreasing in size thereafter. Neuropodial postsetal lamellae rounded in anterior setigers (Fig. 20d–f), lamellae on setiger 1 conspicuously larger than notopodial lamellae (Fig. 20d); thereafter lamellae with dorsally elongated upper portion, overlapping notopodial lamellae (Fig. 20b, c); lamellae divided into interrampal lamellae and small ventral papilla from setiger 27 (Fig. 21d). Branchiae very long and tapered anteriorly, becoming very short around setiger 30. Lateral ciliated organs present in interrampal channel between notopodial and neuropodial lamellae (Figs. 20e–g, 21a–d).

Anterior setae all capillaries; notopodial setae lacking in setiger 1; setae arranged in 2 rows from setiger 1, with setae of anterior row limbate, moderately granulated, setae of posterior row lacking granulations (Fig. 21e, f). Neuropodial hooded hooks present from setiger 18–20, numbering up to 14 per fascicle; hooks with 3 pairs of apical teeth surmounting large, sharp main fang (Fig. 21g, h). Notopodial hooks lacking. Pygidium not seen.

*Remarks.* The specimens from the Japanese waters correspond well with FOSTER's (1971) original description of this species from Texas.

The species is new to the Japanese waters.

*Distribution.* Texas, North Carolina, Massachusetts, New Hampshire; Japan; low water to 85 m.

### Literature Cited

- AUGENER, H., 1926. Polychaeten von Neuseeland. II. Sedentaria. Vidensk. Meddr dansk naturh. Foren., **81**: 157–294.
- BLAKE, J. A., & J. D. KUDENOV, 1978. The Spionidae (Polychaeta) from southeastern Australia and adjacent areas with a revision of the genera. *Mem. natn. Mus. Vic.*, **39**: 171–280.
- DE SILVA, P. H. D. H., 1961. Contribution to the knowledge of the Polychaete fauna of Ceylon. Part 1. Five new species, two new varieties and several new records principally from the Southern coast. *Spol. Zeylan.*, **29**: 164–194.
- FOSTER, N. M., 1971. Spionidae (Polychaeta) of the Gulf of Mexico and the Caribbean Sea. *Stud. Fauna Curacao*, **36**: 1–183.
- GIBBS, P. E., 1972. Polychaete annelids from the Cook Islands. *J. Zool.*, **168**: 199–220.
- GRAVIER, C., 1905. Sur les annélides polychètes de la Mer Rouge (Cirratuliens, Spionidiens, Ariciens). *Bull. Mus. Hist. Natu. Paris*, **11**: 42–46.
- HARTMANN-SCHRÖDER, G., 1979. Die Polychaeten der tropischen Nordwestküste Australiens (zwischen Derby im Norden und Port Hedland im Süden). In G. HARTMANN-SCHRÖDER and G. HARTMANN (Eds.), Zur Kenntnis des Eulitorals der australischen Küsten unter besonderer Berücksichtigung der Polychaeten und Ostracoden (Teil 2 und Teil 3). *Mitt. hamb. zool. Mus. Inst.*, **76**: 75–218.
- 1981. Teil 6. Die Polychaeten der tropischen-subtropischen Westküste Australiens (zwischen Exmouth im Norden und Cervantes im Süden). In HARTMANN-SCHRÖDER, G. and G. HARTMANN (Eds.), Zur Kenntnis des Eulitorals der australischen Küsten unter besonderer Berücksichtigung der Polychaeten und Ostracoden. *Ibid.*, **78**: 19–96.
- HUTCHINGS, P., & S. RAINER, 1979. The polychaete fauna of Careel Bay, Pittwater, New South Wales, Australia. *J. Nat. Hist.*, **13**: 745–796.
- IMAJIMA, M., 1959. A description of a new species of the Spionidae (Polychaeta), *Nerinides yama-*

- guchii* n. sp., with notes on its development. *J. Hokkaido Gakugei Univ.*, **10**: 155–162.
- MACIOLEK, N. J., 1987. New species and records of *Scoelepis* (Polychaeta: Spionidae) from the east coast of North America, with a review of the subgenera. *Bull. Biol. Soc. Wash.*, (**7**): 16–40.
- MÜLLER, O. F., 1806. Zoologica Danica seu Animalium Daniae et Norvegiae rariorum ac minus notorum, Descriptions et Historia. *Havniae.*, 160 pp.
- PETTIBONE, M. H., 1963. Revision of some genera of polychaete worms of the family Spionidae, including the description of a new species of *Scoelepis*. *Proc. biol. Soc. Wash.*, **75**: 77–88.
- SOUTHERN, L. K., 1914. Archiannelida and Polychaeta. *Proc. R. Irish Acad. Dublin*, **31**(47): 1–160.